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FISHERY INDUSTRIES OF THE UNITED STATES 1934

By R. H. FIEDLER

U. S. DEPARTMENT OF COMMERCE
DANIEL C. ROPER, Secretary
BUREAU OF FISHERIES
FRANK T. BELL, Commissioner

FISHERY INDUSTRIES OF THE UNITED STATES

1934

By R. H. FIEDLER

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FISHERY INDUSTRIES OF THE UNITED STATES, 1934 [1]

By R. H. Fiedler, *Chief, Division of Fishery Industries*

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[1] Appendix II to the Report of the U. S. Commissioner of Fisheries, 1935. Approved for publication May 14, 1935.

FOREWORD

This report constitutes a summary of the activities of the Division of Fishery Industries as well as an annual review on fishery statistics of the United States. As its name indicates, this division of the Bureau is concerned with the activities and welfare of the commercial fishery and fishery industries, the trade in fishery products, and the sh canning and preserving industries. Its functions include the ollection and publication of fishery statistics, the conducting of arket surveys, the prosecution of research designed to solve the echnical problems of the industry, and the dissemination of authortative and practical information to the fishery industries and the ublic. Results of technological investigations and marketing tudies are published in separate documents as each project is completed. The information obtained from statistical surveys is published in part 2 of this report, which includes all the detailed statistical information that has become available since the issuance of the previous report,[2] together with such summarized statements and interpretations of the statistics as are deemed significant and useful. In line with the general policy of economy of the Federal Government during the past year, the division's funds and personnel were greatly curtailed during this period. This made it necessary to curtail our economic and technological work and also made it impossible to conduct statistical surveys of the fisheries in several geographical sections. In the preparation of this report, members of the division's staff have taken part and their assistance is appreciatively acknowledged.

Part I. OPERATIONS OF THE DIVISION

COOPERATION WITH OTHER FEDERAL AGENCIES

As in 1933, various members of the division's staff assisted other Federal agencies in the conduct of technological, economic, and statistical work or studies having a bearing on the fishery industry. Such cooperation was rendered especially to the National Recovery Administration, the Department of Agriculture, the Federal Emergency Relief Administration, the Federal Surplus Relief Corporation, Reconstruction Finance Corporation, and others. The writer continued his detail with the National Recovery Administration, begun in August 1933, until September 30, 1934, as deputy administrator in charge of fishery codes, and on October 1, returned to the Bureau, resuming his regular duties. Since his return to the Bureau, the writer was appointed a member of the Food Survey Committee of the Department of Agriculture. This committee investigates the supply and price situation of surplus agricultural and fishery products to guide the Federal Surplus Relief Corporation in making purchases of surplus food commodities. Considerable assistance was given the Federal Emergency Relief Administration in connection with various relief activities among fishermen.

Also, the Bureau has cooperated with various Federal agencies in obtaining statistical data on our fisheries. The Bureau has the cooperation of the Bureau of Agricultural Economics, Department of Agriculure, in the collection of statistics on the volume of cold-

[2] Fishery Industries of the United States, 1933. By R. H. Fiedler, John Ruel Manning, and F. F. Johnson, Appendix I to the Report of the U. S. Commissioner of Fisheries for 1934, pp. 1–237.

storage holdings of fish, and the health authorities in Washington, D. C., in obtaining the volume of fish handled at the Municipal Fish Wharf and Market in this city. In another instance the Bureau obtains figures on the volume of the quarterly holdings of fish oils for the Bureau of the Census. During the past year, the Bureau aided the National Recovery Administration in obtaining data on methods for sharing the proceeds of a commercial fishing venture.

COOPERATION WITH STATE AGENCIES

In the conduct of its technological investigations, the Bureau has always encouraged and fostered cooperation with the States. By working in close conjunction with the members of the research staffs of various State laboratories and institutions, we have been able to increase the productivity of our relatively small technological staff and have been able to carry out such cooperative investigations at considerably less cost. During the past year, the following cooperative investigations were conducted in the State institutions listed:

A member of our technological staff was stationed in the laboratories of the State Medical College, Charleston, S. C., where members of the staff of the State Medical College have given valuable cooperation in a study of the mineral content of aquatic products. Dr. Roe E. Remington and Dr. Kenneth M. Lynch participated in these investigations.

At Massachusetts State College, Amherst, Mass., laboratory facilities were provided for our bacteriologist to study methods for handling fish. Members of the Massachusetts State College staff cooperating in these investigations were Doctors Fellers, Fuller, and Bradley.

At George Washington University, Washington, D. C., Dr. Leland W. Parr, associate professor of bacteriology in the school of medicine, assisted in the supervision of one of our cooperative investigations on sponge disinfectants.

At Cornell University, Ithaca, N. Y., Doctors H. S. Wilgus, Jr., L. C. Norris, and G. F. Heuser, cooperated in making feeding tests of fish meals experimentally prepared in our technological investigations.

Dr. J. S. Carver of Washington State College, Pullman, Wash., cooperated during the past year in carrying on tests with poultry in the feeding of salmon oils and meals experimentally prepared in our Seattle and Alaska laboratories.

The University of Washington, Seattle, Wash., placed space at the disposal of members of our Seattle technological laboratory for the conduct of certain byproducts investigations.

All of the above cooperative investigations are discussed in detail elsewhere in this report.

In the conduct of its statistical research work, the Bureau also obtains unusual cooperation from various States. The surveys of the fisheries in the various States bordering on the Great Lakes, in the Pacific Coast States, and in Maryland and Virginia, have been greatly facilitated by special cooperation obtained from the State fishery agencies in these States. With this aid, it is now only necessary for the Bureau to conduct partial surveys in these States to supplement the data available from the fishery agencies.

In addition, in nearly every other State where commercial fishing is prosecuted, some type of cooperation on its statistical work is rendered the Bureau by the State fishery or other agencies. This makes it possible for the Bureau to make statistical surveys of a greater portion of our fishery industries than otherwise would be possible.

EXHIBIT AT "A CENTURY OF PROGRESS"

The division continued during 1934 to have supervision of the Bureau's exhibit at "A Century of Progress", the world's fair at Chicago, Ill. The exhibit showed generally the activities of the Bureau in conserving our natural fishery resources and in fostering the fishery industry of the United States and Alaska.

Some of the activities of the Division of Fish Culture were depicted by models of a trout hatchery, fish ladder, and fish lock, and with several aquaria and pools containing some of the common species of food fishes taken in our fresh waters. In addition, a series of glass transparent pictures showed other activities of this division.

The Division of Scientific Inquiry exhibited apparatus used for deep-sea biological investigations, charts of a mackerel investigation being conducted by that Division, and methods of oyster culture. The biology of the Great Lakes fisheries was depicted by pictures and models of nets used in these fisheries.

The Alaska Division had an exhibit of natural and dyed fur-seal skins taken from the Pribiloff Islands.

The Black Bass and Angling Division exhibited fishing tackle appropriate for the taking of bass, trout, salt-water fishes, and surf fishes, thereby depicting the sport fishing angle of our fisheries.

The Division of Fishery Industries exhibited methods for the preservation of nets as recently developed by the Bureau. This was shown by charts, pieces of treated netting, and some of the chemicals used. A century of progress in the utilization of products and byproducts was exhibited by samples of such commodities marketed in 1833 as compared with those on the markets in 1933. Other exhibits of this Division included a display depicting the food value of fishery products, a display of canned and frozen aquatic foods, a model depicting the oyster fishery, and a display of the mussel-shell and pearl-button industry.

MARKETING INVESTIGATIONS

During 1934 an unusual interest was evidenced in the economic and marketing phases of the fishery industry. This industry has suffered to a very great degree during the depression, owing (1) to a curtailment of the movement of fishery products into consumption, and (2) to a somewhat lower price structure for the products that entered the market. This has resulted in a most demoralized situation, and various public and private agencies have attempted to develop plans which might be effective in removing the obstruction to the free flow of fishery products from the fishing port to the consumer. However, those attempting to develop a plan of action were invariably confronted with a lack of economic and marketing data on the fisheries upon which to base a foundation. This was most apparent in developing codes for the industry under the National Industrial Recovery Act, in effectuating relief to the industry through the Federal Emergency

Relief Administration, in extending credit to the industry through the Reconstruction Finance Corporation, in the development of cooperative associations under the act approved by the President on June 25, 1934, and in other ways.

During past years the Bureau conducted some studies on the marketing and distribution of fishery products. However, because of limited funds, these were of somewhat local nature and did not cover the situation in as detailed a manner as present necessity dictates. In view of this, and because fishery economic studies are needed, the writer has encouraged the various States to undertake marketing studies designed to aid the fishery industry within their States. This was urged upon the National Planning Council of Fish and Game Commissioners at the organization meeting of the council in St. Louis, Mo., in April 1934. At this time it was explained that fishermen are in dire need of assistance to market their catch profitably and it was suggested that the State fishery agencies might take a leading part in studying the marketing of fishery products. Some State fishery agencies have taken steps to conduct such studies, and in addition considerable fishery marketing work is being done by several State marketing departments. For instance, the Massachusetts Department of Agriculture has recently conducted schools in various cities of the State to instruct retail fish dealers in the proper care and handling of fresh fish and shellfish.

MARKET SURVEY IN SOUTHEASTERN STATES

With the limited funds at the disposal of the division for fishery marketing work, a study was made during the past year, by W. T. Conn and Herbert E. Munger, on the marketing of fish and shellfish in certain inland cities in the States of Maryland, Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Tennessee, Kentucky, West Virginia, Ohio, and Indiana. In all, 39 of the larger cities in these States were visited by these men, who interviewed members of the wholesale and retail fish trade, restaurant owners, health officers, and others.

As a result of this study it was found that per capita consumption of aquatic foods west of the Appalachian Mountains in the area visited is about half of that east of the mountains. Great variations in trade practices and domestic demands were found in the several cities, almost every locality having special characteristics. In general, it was revealed that the usual domestic method for cooking fish is by frying, and that housekeepers and domestic help do not want to clean fish. There apparently are two distinct classes of domestic consumers in this area, one demanding quantity and the other demanding quality. A considerable proportion of fish is sold by retailers who have no interest in promoting the industry and who have taken business formerly handled through retail fish markets. Further, it was found that seafood can be retailed at a profit by progressive merchants; motor-truck peddlers have altered former trade practices in many localities; Negroes in the area apparently have double the per capita consumption of whites; there is a general lack of information regarding seafood and its domestic cookery; consumption through public eating places, especially cafeterias, is growing steadily; and that there is need of research to produce improved commercial handling of stocks.

PER CAPITA CONSUMPTION OF FISH

A study made during the year by Fred F. Johnson, in charge of statistical investigations, shows that the domestic per capita consumption of fish and shellfish during 1931 amounted to about 13.3 pounds in terms of the weight as prepared for market. This total figure was comprised of fresh and frozen products, 8.2 pounds; canned, 3.6 pounds; salted, 1 pound; smoked, 0.3 pound; and other products, 0.2 pound. It was interesting to note that only four species or groups of species contributed more than 0.5 pound to the per capita consumption. Of these salmon led with 2.7 pounds and following in order were the group consisting of cod, haddock, hake, pollock, and cusk, 1.5 pounds; sardines, 0.7 pound; and oysters, 0.6 pound. Eight additional species or groups contributed from 0.25 to 0.5 pound These were in order of their importance—sea herring (excluding sardines), mackerel, flounders, halibut, clams, crabs, tuna and tunalike fishes (including Pacific yellowtail), and shrimp.

In 1931 the per capita consumption of meats, according to figures of the Department of Agriculture amounted to 133.2 pounds or about 10 times that of fish and shellfish. The total consumption figure of meats consisted of 69.6 pounds of pork, 49.6 pounds of beef, 7.1 pounds of lamb and mutton, and 6.9 pounds of veal.

STATISTICAL INVESTIGATIONS

Fishery statistics are collected by the Bureau to serve two principal purposes—first, biological; and second, economic. For this reason the Bureau must plan its statistical surveys to obtain comprehensive data for furnishing a complete and reliable picture of the condition and trend of the fisheries. The collection and compilation of the great mass of data necessary, involves many problems. The fisheries are broad in scope including over 160 varieties of aquatic products which enter into commercial production. These, many of which are migratory, are taken by a great variety of types of gear in water areas along our seacoast and in our interior lakes and streams. If the biological aspect is to be served, complete annual statistics are needed on each of these phases in every section. If the economic aspect is to be served statistics are needed on not only the phases listed above relative to the biological aspect but also on the price structure, the processing function, and the marketing and distributing functions.

BIOLOGICAL ASPECT

The biological aspect must consider two problems—the conservation and sustained supply of the resource and the prediction of future trends or yield. Since our fisheries are usually prosecuted in areas not under private ownership, the problem of the conservation of these fisheries is of national concern. It, therefore, is important that close watch be kept of the condition of the various fisheries to detect depletion so that remedial measures can be promulgated timely and wisely. For this reason it is imperative that current statistical data be obtained on the yield of our fisheries.

These statistics then furnish the biologist with the background upon which to base his prediction of future trends and yields. This he does

by coupling the statistical data with studies of the life history of the species. Difficulty is experienced in making these predictions because the supply (or population) of the species cannot be seen, as is the case with farm animals or crops. The more complete and more reliable the statistics on yield are, the better foundation the biologist has for conducting his studies. The Bureau, therefore, aims to obtain a complete picture of each individual fishery to further these biological studies.

ECONOMIC ASPECT

With the fishery conserved and trends and yields of the fishery predicted there still remains the problem of supplying the fishery trade with that information so essential to the conduct of its business activities. In these days of increasing competition the very existence of the fishery industry must depend upon reliable economic statistical information. Such material has been especially valuable during the recovery period when it has been required in national planning. The Bureau, therefore, aims to make its statistical survey so complete that the industry and the various governmental organizations may turn to it for reliable fishery statistics.

SURVEYS CONDUCTED

The statistical surveys during 1934 were conducted under the direction of Fred F. Johnson, in charge of statistical investigations. These surveys included the collection and dissemination of statistics of the commercial catch and its value, operating units, and employment in the fisheries. In addition, data were collected on employment and compensation of those engaged in, and products of fishery wholesale and manufacturing establishments.

Unfortunately, continued curtailment of funds and personnel made it necessary to eliminate surveys of the South Atlantic and Gulf States, the Lake States, and the States of the Mississippi River and tributaries; however, summaries of the production in these sections for the most recent years available are included in part 2 of this report.

In addition to the above, statistics were collected on the following special phases: The landings of fish by American fishing vessels at the ports of Boston and Gloucester, Mass., Portland, Maine, and Seattle, Wash. (published monthly); landings of halibut at North Pacific coast ports (published monthly); catch of mackerel in the North Atlantic fishery; cold-storage holdings of frozen and cured fish and amount of fish frozen, which are furnished by the Bureau of Agricultural Economics (published monthly); production, consumption, and holdings of marine-animal oils of the United States and Alaska (published quarterly by the Bureau of the Census); production of canned fishery products and byproducts of the United States and Alaska; transactions on the sponge exchange at Tarpon Springs, Fla.; volume of fishery products handled at the Municipal Fish Wharf and Market, Washington, D. C.; and the volume of the United States foreign trade in fishery products, furnished by the Bureau of Foreign and Domestic Commerce.

The following statistical and marketing agents assisted in the collection and compilation of the statistical data: H. F. Brown, W. H. Brown, F. F. Dimick, W. H. Dumont, R. L. Greer, V. E. Heffelfinger,

B. E. Lindgren, E. A. Power, W. H. Rich, V. J. Samson, C. B. Tendick, and A. S. Young.

The reader is especially referred to the section in the latter part of this report entitled "Statistical survey procedure" which gives in detail the methods employed in the collection of fishery statistics and other pertinent information.

TECHNOLOGICAL INVESTIGATIONS

Some of the food industries of this country during the past 15 years have made rapid strides in developing new products and new methods of manufacture and in developing a more orderly plan of marketing and merchandising. These developments are no doubt directly traceable to such factors as changes in consumer demand, education of the consumer, shifts in population, occupational changes among our people, and others. Many of these developments have leaned toward the production of prepared and packaged foods of new types, with consequent concentration of trimmings or waste which is available for conversion into valuable byproducts. In turn, methods have been found for converting much of this waste into useful commodities. These developments have clearly demonstrated the need for technical advancement in the aquatic food industry if it is to keep pace with the other food industries. In order to aid in this connection the Bureau is continuously conducting a series of technological investigations covering problems in the manufacture, preservation, and handling of fishery products. A summary of the accomplishments in these fields during the past year appears in the next few pages. For details regarding this work, the reader is referred to published reports and special articles of the various members of the staff, or in case the investigation is not completed, by direct communication with the Bureau of Fisheries in Washington.

LABORATORIES

During 1934 the Division carried on its technological studies under the direction of J. R. Manning, in charge of technological investigations, at its laboratories located in Washington, D. C., Gloucester, Mass., Seattle, Wash., College Park, Md., and at a field laboratory on Kodiak Island, Alaska. In addition, certain cooperative investigations were conducted by our technologists in the chemical laboratory of the State Medical College at Charleston, S. C., the food products laboratory of the Massachusetts State College at Amherst, Mass., the bacteriological and chemical laboratories at George Washington University, Washington, D. C., and the laboratory of the Agricultural Experiment Station, College Park, Md. A résumé of the facilities and equipment at the laboratories in Washington, D. C., Gloucester, Mass., Seattle, Wash., and Charleston, S. C., is contained in the report of this Division for 1933. Late in 1934, under a cooperative arrangement with the University of Maryland, our nutrition laboratory was moved from Washington, D. C., to quarters provided free of charge by the university at College Park, Md. This laboratory is now equipped with all the appliances which were formerly in the nutrition laboratory in Washington, D. C.

PRESERVATION OF FISHERY PRODUCTS FOR FOOD

Experimental work during the past year in the preservation of fishery products for food was conducted at the Gloucester laboratory by James M. Lemon, technologist in charge, assisted by Francis P. Griffiths, bacteriologist, and Maurice E. Stansby, chemist, and at the Washington laboratory by Norman D. Jarvis, technologist in charge of canning work. During the latter quarter of the year, Mr. Griffiths was detailed to conduct a series of cooperative bacteriological experiments at the food products laboratory of the Massachusetts State College, Amherst, Mass.

HANDLING FRESH MACKEREL

Mackerel is an extremely delicate fish and is easily bruised and crushed during packing and in shipment. For this reason special care is needed in the handling of this fish so that it will arrive at the market in good condition. One of the methods employed by the industry to overcome this difficulty is "floating," which consists of packing the mackerel in a watertight barrel with sea water and ice. In some cases, the sea water is drawn from the harbor under the packing plant, where it is more or less contaminated. While this method of packing retards bruising and crushing, it leads, in many cases, to decomposition of the mackerel en route to market, with consequent loss to the industry. In order to aid in minimizing these losses, a series of tests were conducted to develop a method for packing and shipping this fish which would have promise of commercial application. As a result of this work, it was found that when fresh mackerel were eviscerated, washed in clean water, and packed in boxes with finely crushed ice, a better product could be placed in the hands of consumers than with the "floating" method.

While this method is superior to the commercial method of "floating", it still is not ideal, as water from the melting ice has a tendency to leach the minerals from the fish.

STORAGE OF FROZEN MACKEREL

When frozen mackerel have been held in cold storage for a certain period, there is a tendency for the oil or fat in the fish to become rancid, thereby making the mackerel unfit for sale. In order to aid in correcting this condition, a series of experiments were conducted on the relationship between temperature of storage and the development of rancidity in mackerel oil, the action of enzymes on mackerel oil, and the seasonal variation in the oil content of mackerel. While these experiments have not progressed to the point where final results can be reported, they reveal that the percentage of oil in mackerel flesh varies from 2 to 5 percent from early spring catches to nearly 30 percent in the August catch, then declines to about 10 percent in the December catch. This study further showed that the development of rancidity is more or less directly correlated with the oil content. This would indicate that mackerel of low oil content, that is, those caught during the early spring, would be less apt to develop rancidity in cold storage. However, economic factors may tend to neutralize some of these benefits, for mackerel commands a relatively high price

in the spring, and rental charges for holding the frozen fish in cold storage over a longer period of months, as would be necessary, would be increased.

SMOKED MACKEREL AND STORAGE OF THIS PRODUCT

At periods during the peak of the mackerel season, it often becomes difficult for the trade to dispose of this fish in the fresh condition. This has lead to depressing prices with consequent lowering of the income of mackerel fishermen. It has become increasingly evident that some different method of preservation is needed for mackerel which will present a new "appetite" appeal to consumers for this fish. In view of this, a study was begun, during the past year, at the Gloucester laboratory to develop methods for smoking mackerel and storing smoked mackerel under optimum conditions. While smoked mackerel is not what might be called a new product, as it can be obtained in the market at intervals, no extensive trade has been developed in product owing to the fact that it spoils easily during storage. At this writing, a technique has not yet been developed which has promise of commercial application for overcoming this spoilage. However, tests to date indicate that a practical method can be developed. In this connection, it is interesting to note that smoked mackerel can be used to make delicious and appetizing salads. It, therefore, appears that if a practical method can be developed, a new use can be found for this fish which may be of material aid to the mackerel fishery.

SHRINKAGE OF FRESH FISH PACKED IN ICE

During the past several years, considerable technical study has been given to the effect of ice when used as a preservative on fresh fish. The importance of this work may be seen from the fact that normally about 600,000,000 pounds of iced fresh fish are shipped to market annually. As a rule, the fish in these shipments are packed in direct contact with the ice. Previous study has shown that this method of icing results in dissipating a large proportion of the mineral salts in the fish, with consequent loss in flavor and food value. This loss is caused by general hydrolysis of the complex protein molecules of the flesh induced by the action of enzymes and bacteria. Thus, the soluble protein and mineral salts are drawn from the fish by the water formed from the melting ice. The actual loss in weight is of little consequence, although it may be as high as 10 pounds per ton over a period of 7 days, as further experiments show.

The present investigation was directed toward learning the effect on the weight of fresh fish when packed in ice. As a result, it was found that other than the loss of the mineral salts, and water soluble proteins, as referred to above, there is no appreciable loss in weight, provided the fish are entirely covered with ice. Apparently, there is an exchange of the mineral salts from the fish with water from the melting ice thereby holding the weight of the fish nearly constant. Thus, while this method of preservation results in little or no actual loss in weight, the flavor may be somewhat impaired. The latter may be corrected by packing the round or dressed fish or cuts therefrom in waterproof wrappers before being packed in the ice.

DETERMINATIONS FOR THE RELATIVE FRESHNESS OF FISH

For many years, there has been a need for a standard method for determining the relative freshness of fish or conversely for determining the stages of decomposition in fresh fish. A method has been desired by such governmental authorities as public health inspectors, pure food inspectors, grading inspectors, and the like, as well as many members of the fishery industry. The usual practice has been to determine freshness by an organoleptic test of the product, sometimes accompanied by bacteriological analysis. The former tests oftentimes have resulted in as many verdicts as to the quality as there are judges and the latter requires considerable time as it is necessary to make a culture from the bacteria obtained from the fish. It, therefore, appeared that a need existed for a test that could be used with uniform results by the layman and one which could be performed with a minimum of delay. In order to aid in this direction, a series of technical studies have been conducted by members of the technological staff which resulted in the development of an electrometric method for the detection of the relative freshness of haddock. This method, which was described in brief in last year's report of this division, consists in measuring electrometrically the quantity of a standard acid absorbed by the protein in a given quantity of the flesh of the fish and checking results with a previously developed chart of standardized values.

As the property for absorbing acid by the protein varies slightly in different species, it would be necessary to develop a technique for the various species. In view of this, studies were conducted, during the past year, for determining the relative freshness of cod, pollock, and mackerel. While these have not progressed to the point where a chart can be prepared against which to check the tests, they do indicate that this type of test is applicable to all species of nonoily fish, such as cod and pollock, but that possibly a different technique will need to be developed for such oily fish as mackerel. It appears that the technique for the oily fish will need to include a test for determining the relative rancidity of the oil in such fish.

CANNING AQUATIC FOODS

At the present time, only about 20 of the 160 varieties or species of fish and shellfish taken in our waters are canned (hermetically sealed in tin cans or glass jars) on a commercial scale. This has been due largely to the economic factors of supply and price. However, during late years, there has been a demand on the part of housewives, home economic and relief workers, and others for information on methods for canning aquatic foods. With this in mind, a series of technological and bacteriological investigations have been undertaken during the past several years, to develop methods for canning these products which could be safely and easily used in the home as well as by home economic and relief workers in community kitchens or in commercial establishments. This work has been conducted toward three principal goals. First, toward the selection of species taken in the fishery harvest which would be suitable for canning from the standpoint of availability and adaptability. Second, toward the determination of proper cooking temperatures to create sterility.

And, third, toward packing the product so it will present a pleasing appearance when removed from the can. During the conduct of this work, the following aquatic foods have been experimentally canned: Fish flakes; fish cakes; fish chowder; fish balls; fish pastes; mullet, plain, in tomato sauce, and spiced; mackerel, plain, in tomato sauce, spiced, and smoked; amberfish; salmon, plain and spiced; grouper; squeteagues; croaker; eels, plain and pickled; catfish; carp, plain and spiced; lake trout; whitefish; shrimp; crab meat; clams, whole, minced, and chowder; oysters; alewives; and shad.

In canning the crab meat, particular emphasis has been placed on developing a method for commercial application in canning meat taken from the blue crab caught along the Atlantic coast. Attention also has been given to packing fresh crab meat in various ways in cans for shipment to market under ice.

To date, successful methods have been developed for the home canning of salmon, shad, mackerel, lake trout, whitefish, mullet, and for canning certain types of spiced fish and fish chowder. These methods may be adapted with modifications to the commercial or semicommercial canning of these species. A report on this work has been recently issued by the Bureau and copies are available on request.

As regards the canning methods developed, it has been definitely shown that to obtain sterility in the final product, when canned in the home, it should be packed in no container larger than a no. 2 tin can or pint glass jar, and the product while in the container should be cooked in a steam-pressure retort equipped with a thermometer as well as a pressure gage.

BACTERIOLOGICAL INVESTIGATIONS

In the development of improved processes and methods for the preservation, storage, and other handling of aquatic products, the investigator is constantly confronted with the problems of bacterial spoilage. Therefore, in various of the investigations discussed previously, bacteriological studies are correlated with chemical and engineering studies. For instance, bacteriological examinations were made of the experimental packs of canned aquatic foods to determine which processes produced sterility, on the keeping qualities of fresh mackerel packed in ice, in determining the preservative value of smoke, on the tests developed for determining the relative freshness of fish, and others.

During the latter part of the past year, a special cooperative bacteriological study was begun to determine the effect of antiseptics in ice on the keeping quality of fresh haddock when packed in such ice for temporary preservation. This study is still in progress. In addition, a bacteriological investigation is in progress on disinfecting sponges used in the household. This will be discussed in the following section.

DISINFECTANTS FOR SPONGES

Sponges used in the household for cleansing purposes may be a possible medium for the spread of infectious diseases among the members of the family. In view of this situation, the sponge industry has been meeting with consumer resistance in the purchase of sponges. In order to learn whether this resistance was justified, and if so, what

steps might be taken to remedy the situation, the Sponge and Chamois Institute, New York City, requested the Bureau to undertake a study of this problem. This was undertaken as a cooperative investigation with George Washington University, Washington, D. C., where two students from the medical school receiving aid from the Federal Emergency Relief Administration, were detailed to our technological staff. This investigation, which has been conducted in the laboratory of the medical school, has not progressed to the point where definite conclusions can be drawn. However, thus far, it was found that thorough washing of the sponges in hot soapy water sterilizes sponges which had been experimentally infected with certain kinds of bacteria, but such washing has not proven effective in sterilizing the sponges infected with such pathogenic organisms as that causing ringworm. Further studies are being made of the value and possible application of other disinfectants such as phenol.

PRESERVATION OF FISHERY BYPRODUCTS

Because of the increasing demand for information with respect to the utilization of fishery waste materials, technologists of the division have continued an active program of research on the preservation of fishery byproducts. In 1934, investigations were in progress at the Gloucester technological laboratory, the Seattle technological laboratory, a field laboratory in Alaska, and at several State agricultural experiment stations. These studies were carried on under the direction of R. W. Harrison, in charge of our Seattle technological laboratory, with the assistance of A. W. Anderson, technologist of the Seattle laboratory, and S. R. Pottinger, chemist of the Gloucester technological laboratory.

UTILIZATION OF SALMON CANNERY WASTE

Our catch of salmon in the Pacific Coast States and Alaska averages between 500,000,000 and 600,000,000 pounds, annually. Of this amount, at least one-third, or approximately 200,000,000 pounds is waste material, the greater portion of which is discarded and represents a complete loss as well as a sanitary nuisance. Because of the great potential value of this amount of material, the Bureau has continued the studies on the utilization of salmon cannery waste as its major byproducts problem during 1934. The data obtained to date indicate that salmon waste is a potential source of vitamin active oils and highly nutritious fish meals.

Studies concerned with the distribution of the oil in the fish and their vitamin content show that the greater portion of the oil is in the head and flesh portions, that vitamin D is quite uniformly distributed in all the waste fat, although the visceral fats are richest in this vitamin, and that vitamin A is confined almost entirely to the visceral oils.

Oils from the total waste of the various species of salmon are quite uniform in vitamin D, but vary considerably in vitamin A. Chinook oil has the highest vitamin A potency, but contains less vitamin D than the other salmon oils. Sockeye and silver salmon are good sources of both vitamins A and D; and pink and dog salmon are good sources of vitamin D, but relatively poor sources of vitamin A. All salmon oils, therefore, are highly desirable for poultry nutrition, while oil from

chinook, sockeye, and silver salmon, if prepared properly, will compare favorably with U. S. P. requirements for medicinal cod-liver oil.

Studies with regard to methods for manufacturing the fish oils indicate that the common practice of cooking is not necessarily destructive to the vitamins extracted by the fats. Rather the vitamin potency of the oils seems to depend upon the freshness of the raw material, the extent to which the visceral parts are utilized in making the oil, and the efficient mechanical extraction of the press liquors.

As a corollary to these studies, our technologists gave assistance to the industry in the development of edible salmon oils for use in canning and conducted tests on the effect of adding high-grade salmon oil to salmon during the canning process. Preliminary results indicate that the addition of this oil is effective in improving quality.

Studies with respect to effect of manufacture on salmon meals were started, but sufficient data are not available for making a preliminary report.

EFFECT OF MANUFACTURE ON THE QUALITY OF NONOILY FISH MEALS

Studies concerned with the effect of manufacture on the composition and nutritive properties of nonoily fish meals, which have been in progress several years, were completed in 1933 and during the past year the data have been assembled for use in reports. These studies have shown:

(1) Fish meal proteins, as shown by tests for feeding efficiency, biological value, digestibility, and destruction of essential amino acids, are not affected as much by conditions of drying as is vitamin G.

(2) Vitamin G is water soluble and is removed with the water soluble protein by the wet process.

(3) The water soluble proteins removed by the wet process are not of as high quality as the residual flesh proteins.

(4) The head portion of the waste is the richest source of vitamin G, while the backbone and flesh portion has the highest quality protein.

(5) Flame drying is definitely destructive to vitamin G and decreases the value of the protein.

From these data it is possible to draw certain practical conclusions, some of which are:

(1) Dry process meals have greater general nutritional value than wet process meals, owing to the advantage given by vitamin G, in the former, overbalancing the slightly higher quality proteins of the latter.

(2) Steam dried meals are superior to flame dried meals.

(3) Steam drying under vacuum improves the value of a meal slightly over steam drying at higher temperature. This is due more to effect on vitamin G than on the protein.

(4) Wet process oily fish meals cannot be expected to be important sources of vitamin G.

(5) From the standpoint of quality, there would be no particular advantage in drying wet process meals under vacuum if normal steam drying at atmospheric pressure can be accomplished.

STUDIES OF THE DRYING OF NONOILY FISH WASTE

The studies on effect of manufacture on the quality of nonoily fish meals demonstrated the need for more information on a satisfactory dry rendering process. The experimental data obtained as a result of studies in this connection have shown that dry reduction can be accomplished without detrimental "sticking" and "caking" of the gluelike material in the dryer, if steam pressure and vacuum are maintained at proper levels as drying progresses. From a strictly production standpoint, the greater yield of meal by the dry process counterbalances the less difficult and apparently lower operating costs of the wet process. When nutritive quality of final products are considered, the dry process has an additional advantage over the wet process.

UTILIZATION OF SWORDFISH LIVERS

The work on swordfish-liver oil which was begun in 1933, to develop a method for the commercial manufacture of this product and thereby make use of a product not fully utilized, was continued during the past year. On the basis of the data obtained the following conclusions may be drawn:

Swordfish livers vary in fat content between 15 and 20 percent during the course of the fishing season. The livers do not give up oil readily either by steaming or boiling in water. To obtain efficient oil removal either solvent or improved mechanical extraction methods must be used.

Depending on the method of extraction, swordfish-liver oil will vary in color from amber to dark brown and from a liquid at room temperature to a solid fat.

The manner of fat and vitamin storage in swordfish livers is such that the mere extraction of oil does not give efficient vitamin extraction unless conditions are such that the oil comes in intimate contact with the liver tissue. This brings out the role of fat as a vitamin solvent during liver extraction and suggests the possibility of using fish and other oils commercially in extracting vitamins from low fat content livers.

Solvent-extracted swordfish-liver oils were prepared during the course of the investigation which were 100 times more potent than the U. S. P. standard of reference cod-liver oil, which contains 3,000 U. S. P. vitamin A units per gram and 95 U. S. P. vitamin D units per gram. These samples indicate that swordfish-liver oil is the richest known natural concentrate of both vitamins A and D.

A preliminary report on this investigation has been prepared and as a result of these studies, swordfish livers are now being used in liver-oil manufacture and fishermen are obtaining a new source of revenue from materials formerly discarded.

HADDOCK-LIVER OIL

The general results of the Bureau's haddock-liver oil investigation were given in the 1933 report. During the past year these data have been assembled in a form suitable for publication. In last year's report, is was stated that haddock-liver oil corresponded favorably

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with U. S. P. specifications for cod-liver oil in every respect except iodine number. The variation with respect to iodine number is not important when unchilled oils are considered. However, during the past year, a new U. S. P. specification has appeared, in which U. S. P. cod-liver oil is designated as a partially destearinized oil. Partially destearinized haddock-liver oils will exceed U. S. P. iodine number specifications in many cases. Therefore, since it is quite generally agreed that haddock-liver oil was meant for inclusion with cod-liver oil and similar liver oils in the class of U. S. P. cod-liver oil, publication of these data should serve as a guide in changing specifications to cover adequately the materials that are supposed to be included under the classification.

NUTRITIVE VALUE OF AQUATIC PRODUCTS

Because we are concerned primarily with food products, our nutrition studies are a very necessary and important phase of our technological work. Not only is it essential to determine the food value of fish and shellfish products and byproducts now on the market, but the relative nutritive value of any experimentally prepared food product is the only true yardstick or standard of measurement for evaluating improvements in methods of manufacture, preservation, handling, and storage of such products.

During the past year, various phases of the nutrition investigations were carried on, respectively, in the nutrition laboratory in Washington, D. C., which in the early fall was moved to College Park, Md., and in the chemical laboratory of the State Medical College at Charleston, S. C., by Charles F. Lee and E. J. Coulson, of the technological staff.

SWORDFISH-LIVER OIL

In order to evaluate the adequacy of experimental methods for producing oils from swordfish livers, as described previously in this report, such oils as manufactured in the laboratory by various methods were tested for their vitamin potency.

Livers from last season's (1934) catch of swordfish were extracted with a number of different organic solvents, such as petroleum ether, ethyl ether, ethylene dichloride, carbon tetrachloride, ethyl acetate, acetone, and toluene. Extractions were made of both cooked and uncooked livers. Results thus far indicate that ethylene dichloride, petroleum ether, and ethyl ether, seem to yield the oil with the highest vitamin potency from both.

Including samples produced both in 1933 and 1934, the variation in vitamin A potency ranges from 36,000 to 300,000 international vitamin A units per gram. These samples vary in vitamin D potency from 2,850 to 9,500 international vitamin D units per gram. Expressing it another way, swordfish-liver oil runs as high as 100 times the U. S. P. standard reference cod-liver oil in vitamins A and D.

SALMON OIL

Vitamin tests of oils prepared from the trimmings remaining from salmon canning operations, from salmon eggs, and from salmon livers, were continued during 1934. The oil samples used in these tests were

prepared according to various experimental methods of manufacture by technologists in our Seattle and Alaska laboratories. In general, oils prepared from salmon livers are approximately 5 to 20 times as potent in vitamin A and approximately 2 to 3 times as potent in vitamin D as an average medicinal cod-liver oil. The oils prepared from salmon eggs and from trimmings compare favorably in vitamin potency with an average medicinal cod-liver oil. The results obtained in 1934 averaged about the same vitamin potency as the samples prepared experimentally in 1933 insofar as their vitamin D content was concerned, although some of them were somewhat low in vitamin A potency.

A more detailed discussion of the variation in potencies of salmon oils appears in a previous section of this report under the heading of "Utilization of salmon cannery waste."

HORSE MACKEREL-LIVER OIL

During the past year, a sample of oil extracted by ethylene dichloride from the liver of the horse mackerel or Atlantic tuna was tested for vitamins A and D. As a result, it was found that this oil contained 7,100 international vitamin D units and 60,000 international vitamin A units.

CRAB MEAT

Samples of fresh crab meat as prepared commercially from the blue crab of Chesapeake Bay were tested for vitamins A and G. In the vitamin A tests, the crab meat was found to contain 40 to 55 U. S. P. vitamin A units per ounce of crab meat. In the vitamin G tests, the crab meat was found to contain about one-half a unit of vitamin G per gram of crab meat. The so-called "curative technique" was used for the vitamin A assay, while the "Sherman" method was used for the vitamin G assay.

SODIUM ALGINATE

Because, in recent years, sodium alginate, a product made from the Pacific coast kelp, has found widespread use in dairy products as a stabilizer, the Bureau was requested by the industry to determine its food value. Accordingly, tests were made of this product with laboratory animals. Fed at the level of 3 percent of the ration, sodium alginate showed definite food value. Our tests indicated that this product possesses the same general properties in stimilating growth and appetite in the experimental animals (white rats) as was found in the kelp-meal tests conducted by our technologists, a few years ago (Technological Report No. 5).

CONCH MEAT

Considerable quantities of conchs are found along the coast of Florida and in certain of our possessions in the West Indies. The meat of this animal is highly prized for food in different localities and in recent years an effort has been made to widen distribution. This has been done by developing a canning industry in Florida which produces such products from conch meat as cocktails, juices, concentrates, etc. Since no analyses of conch meat were available, a study

was made of the chemical composition of this product. This revealed that conch meat, on a fresh basis, contained the following: moisture, 74.6 percent; protein, 18.6 percent; fat, 0.3 percent; and ash, 1.7 percent. Also it was found that conch meat contains 290 parts of iodine per billion.

MINERAL CONSTITUENTS OF FISHERY PRODUCTS AND BYPRODUCTS

Much has been written in the scientific literature in recent years concerning the increasing importance of minerals in nutrition. Probably no other class of foods offers so attractive a field of study, in this respect as fishery products, since it is commonly known that these products contain minerals in quantity and variety, many of which have been shown by scientific investigators to be of great importance in both human and animal nutrition. During recent years the Bureau has carried on an extensive study of the nutritive value of minerals in fishery products. Toward this end, chemical analyses of the quantity of these minerals in various fishery products of commercial importance are being made. Following this, these fishery products are fed to laboratory animals to determine the biological value of such minerals.

The biochemical investigations during the past year have been of two types; first, a study of those mineral elements contained in sea foods which are considered to be of great importance in both human and animal nutrition; and second, investigations of the characteristics of those elements, also contained in sea foods, which are usually considered to be deleterious to health. Investigations of the iodine content of various fishery products of commercial importance by a more recent method has revealed that the iodine content of some of them is actually many times higher than has previously been reported in this country. For instance, the following average results are reported of the iodine content, in parts per billion, of some of the important species of fish, on a fresh basis: haddock, 5,130; cod, 1,030; and mullet, 4,850.

The problem of the removal of arsenical spray residues from fruits and vegetables in order to make those foods safe for human consumption has recently focused the attention of investigators on the naturally high arsenic content of sea foods. Because of increasing concern which is being shown by scientific workers at the present time, an investigation was undertaken to study the characteristics of organic arsenic as it is contained in marine products when fed to laboratory animals.

The results of these investigations have revealed that there is a difference in the metabolism of organic arsenic as it occurs in shrimp as compared to inorganic arsenic and that while the inorganic arsenic is absorbed and stored in the body, the organic arsenic from shrimp is eliminated. Careful histological studies of the organs of the experimental animals have failed to reveal any deleterious effects of this element when fed in the form of shrimp. Like studies on the effect of feeding organic copper in the form of "coppery green" oysters have yielded similar results.

Considering the results of the above-described work on arsenic and copper, as well as the findings of other investigators that only a part of the iron and copper of some foods is available for hemoglobin production, it is becoming apparent that not only must the presence of an element in a food be proven, but its availability to the body must be tested by animal experimentation methods. Consequently, it can

no longer be assumed that the chemical analysis of a food, with regard to its mineral content, is an accurate measure of its value as a source of those minerals in the diet.

FISH COOKERY INVESTIGATIONS

As is related elsewhere in this report, the per capita consumption of aquatic foods in this country is very low compared with many other countries, being only about 13.3 pounds annually. This, of course, has a direct effect on the industry in that capacity production cannot be attained by fishermen and processors and also an effect on our people in that they are depriving themselves of a wholesome nutritious food of valuable healthful properties. Believing that consumption is retarded because of the lack of informative methods for cooking fish and shellfish for the table, the Bureau installed a fish cookery kitchen in its laboratory in the Department of Commerce Building in Washington. Here a series of simple recipes for cooking aquatic foods in the home were tested by Miss Agnes I. Webster and W. T. Conn.

During the course of this work, many kinds of fish and shellfish were cooked by frying, broiling, baking, boiling or steaming, and planking. Also recipes were tested for making fish chowders, and flaked fish, for cooking fish with vegetables, for cooking salted and smoked fish, and for cooking oysters, shrimp, crabs, clams, lobsters, and scallops. In addition, recipes were tested for making sauces to be used with fish and shellfish.

As a result of these tests, a cookbook has been prepared giving simple recipes for cooking aquatic foods which can be followed with ease in the home by the housewife.

RESEARCH ASSOCIATES AND STUDENT ASSISTANTS

In the above lines of industrial research the Bureau has attacked those fundamental problems which promise to be of greatest value to the largest number and which are possible with the funds and personnel available for the purpose. For this reason, the division has not been able to study special problems affecting certain products, processes, or methods. In order to serve the industry in this connection, the Bureau by congressional authorization has provided research associate facilities whereby firms or groups having special industrial problems to solve will furnish the investigator and pay his salary and expenses. The investigation is carried out in cooperation with the Bureau's staff in its laboratories and under its control. Thus the industry can be provided with laboratory, consultation, and library facilities which in many instances it is unable to obtain elsewhere.

In addition to the above, the Bureau has opened its technological laboratories to research students pursuing courses in several universities. In this manner the student is able to apply in a practical manner the theoretical knowledge obtained at the university. These men are usually assigned to aid our investigators in the conduct of investigations already initiated by the Bureau. For instance, during the past year, Donald A. Bean and Richard M. Locke, students at Northeastern University in Boston, spent alternately 5 weeks in the university pursuing the regular-school curriculum and 5 weeks in our technological laboratory at Gloucester, Mass., aiding in the conduct of research problems pertaining to fish preservation and spoilage.

James W. McCurley, W. B. Matthews, John W. Webster, Roscoe Dwiggins, Arthur Kahn, and F. L. Clavelaus, jr. (deceased), students at the University of Maryland receiving aid from the Federal Emergency Relief Administration, worked in our nutrition laboratory at College Park, assisting in the conduct of studies on the vitamin content of fish oils. These men, during the school year, spent several hours per day in the laboratory.

At George Washington University, Washington, D. C., William H. Conway and William J. P. Howard, medical school students receiving aid from the Federal Emergency Relief Administration, were detailed to a study of the development of disinfectants for sponges in household use. This project was under the joint supervision of the Bureau and the university, and the details of the investigation are described elsewhere in this report.

EDUCATIONAL AND CONSULTING SERVICES

In addition to the activities described in this report, our economic and technological staff conducts an educational and consulting service for those interested in the fisheries. Some of these functions and services have been discussed or referred to in previous paragraphs of the report. In addition, various members of the staff have conducted lectures and practical demonstrations relative to the fisheries and the fishery industries at various State educational institutions and at public gatherings of various sorts. Further, members of the staff have delivered radio addresses on various fishery subjects. The Bureau or the division also answered many thousands of letters on fishery subjects and has supplied information to persons who have called at the Bureau, personally. Many of the latter have come from foreign lands to seek information on the conduct of the fishery industries in the United States, which might be useful in the more orderly conduct of the fisheries of their native lands.

PUBLICATIONS OF THE DIVISION

During the calendar year 1934 the following publications were prepared and addresses delivered by members of the division's staff. These do not include the monthly statistical bulletins of the landings of fishery products at Boston and Gloucester, Mass., Portland, Maine, and Seattle, Wash., nor the monthly reports on cold-storage holdings of frozen fish and quantities of fish frozen. The fishery reports and circulars may be purchased at the prices shown from the Superintendent of Documents, Government Printing Office, Washington, D. C. The statistical bulletins and special or S-memoranda are distributed free of charge upon request to the Bureau. The special articles may be obtained from the sources of publication.

Those wishing to receive current copies of this report and statistical bulletins issued by the Bureau should request that their names be placed on the Bureau's mailing lists nos. 128 for the annual statistical report, 128a for general statistical bulletins, and 128b for monthly cold-storage reports. Those desiring historical statistical data on the domestic fisheries for the period 1880 to 1929 should consult the report entitled "Fishery industries of the United States, 1930" by R. H. Fiedler, Appendix II to the Report of the United States Commissioner of Fisheries for the fiscal year 1931.

DOCUMENTS, REPORTS, AND CIRCULARS

COULSON, E. J.
The iodine content of oysters. 8°, 10 pp., 1 fig. Investigational Report No. 18. 5 cents.

COULSON, E. J., ROE E. REMINGTON, and KENNETH M. LYNCH.
Studies on the metabolism of copper. 8°, 12 pp., 2 figs. Investigational Report No. 23. 5 cents.

FIEDLER, R. H., JOHN RUEL MANNING, and F. F. JOHNSON.
Fishery industries of the United States, 1933. 8°, 237 pp. Appendix I Report of Commissioner, 1934. 20 cents.

GRIFFITHS, FRANCIS P., and J. M. LEMON.
Studies on the smoking of haddock. 8°, 12 pp., 1 fig. Investigational Report No. 20. 5 cents.

JOHNSON, F. F.
Aquatic shell industries. 8°, 17 pp., 5 figs. Fishery Circular No. 15. 5 cents.

JOHNSON, FRED F., and MILTON J. LINDNER.
Shrimp industry of the South Atlantic and Gulf States, with notes on other domestic and foreign areas. 8°, 83 pp., 31 figs. Investigational Report No. 21. 10 cents.

SPECIAL ARTICLES AND ADDRESSES

CONN, W. T.
Net preservative research, 1933, with recommendations. Bureau of Fisheries' Memorandum S–335, February 9, 1934. Published in Fishing Magazine, February 1934, New York City.
Retailing fish. Bureau of Fisheries' Special Memorandum 2450–G, December 19, 1934. Published in The Fisherman, February–March 1935, Grand Haven, Mich.
A tip to coast fishermen on nets. Alabama Game and Fish News, August 1934, Montgomery, Ala.
Save nets—save dollars. The Florida Conservator, December 1934, Tallahassee, Fla.
More life from fish nets. (Bureau of Fisheries' Special Memorandum 1651–H, December 1933.) Reproduced (without trade lists) in Fish and Oyster Reporter, February 1934. Tampa, Fla.; Atlantic Fisherman, January 1934, Goffstown; Fishing Magazine, February 1934, New York City: abstracted in Pacific Fisherman, February 1934, Seattle, Wash.; and recommended in the Fishing Gazette, January 1934, New York City.
Atmospheric exposure of linen and cotton with special reference to fish nets. (Bureau of Fisheries' Special Memorandum 1651–G, published November 1933.) Reproduced in substance in The Fisherman, November 1934, Grand Haven, Mich.

COULSON, E. J.
The oyster as a source of minerals. Fishing Magazine, May 1934, New York City.
Oysters in anemia. Address before the joint convention of the National Shellfisheries Association and the Oyster Growers and Dealers Association of North America, Inc., Baltimore, Md., August 7, 1934.
Chemical composition of conch meat. Bureau of Fisheries' Special Memorandum 2065–B.

COULSON, E. J., ROE E. REMINGTON, and KENNETH M. LYNCH.
Studies on the toxicity of copper. Address before the Biological Chemistry Section, American Chemical Society, St. Petersburg, Fla., March 27, 1934. Published as Fisheries' Investigational Report No. 23.
Toxicity of naturally occurring arsenic in foods. Science. September 7, 1934, New York City. Bureau of Fisheries' Special Memorandum 2524.

FIEDLER, R. H.
Purpose of the oyster code. Address before the joint convention of the National Shellfisheries Association and the Oyster Growers and Dealers Association of North America, Inc., Baltimore, Md., August 6, 1934.
Relationship between the sportsmen anglers and the commercial fishermen. Radio address delivered over Station WMAL, November 30, 1934. Washington.
Codifying our fisheries under the Recovery Act. Address before the National Planning Council of Fish and Game Commissioners, St. Louis, Mo., April 23, 1934.

Griffiths, Francis P., and Maurice E. Stansby.
The significance of bacterial count and chemical tests in determining the relative freshness of haddock. Address before the Montreal meeting of the American Fisheries Society, September 13, 1934.
Harrison, Roger W.
Recent developments in fisheries technology. Address before Fisheries Section, Pacific Northwest Regional Planning Council, Seattle, Wash., December 13, 1934.
Jarvis, Norman D.
Cold smoked Florida fish. Florida Conservator, vol. 1, no. 5, pp. 11–12, November 1, 1934. Tallahassee, Fla.
Lee, Charles F., and Chester D. Tolle.
Salmon liver and salmon egg oils, vitamin content, and chemical and physical properties. Industrial and Engineering Chemistry, vol. 26, p. 446, April 1934. Bureau of Fisheries' Special Memorandum 1738–23.
Manning, J. R.
Relation of the fishery industries as a source of raw material in the manufacture of dog foods and related products for animal feeding and general information on the need for standards and marketing grades in this industry. (Special report prepared for the National Recovery Administration and delivered at the public hearing on the Code of Fair Competition for the Dog Food Industry on Feb. 16, 1934.) Bureau of Fisheries' Special Memorandum 2450–I.
Interchangeability of uses of oils and fats. (Copied from p. 5925 of Cong. Rec., 73d Cong., 2d sess., vol. 78, no. 70, Mar. 29, 1934, Washington). Bureau of Fisheries' Special Memorandum 1417–B.
Technological investigation in the Great Lakes fisheries. Published in The Fisherman, vol. 3, no. 3, May–June 1934. Grand Haven, Mich.
Sumario del valor de los productos de la pesca en la nutricion humana y animal. Published in Boletin de la Oficina Sanitaria Panamericana, Ano 13: no. 6, Junio de 1934.
Fish and shellfish for food. Bureau of Fisheries' Special Memorandum 2256–B.
Domestic fish oils now available as sources of vitamins for human nutrition. Prepared for and issued by the Division of Cooperative Extension, United States Department of Agriculture, December 6, 1934.
Remington, Roe E., E. J. Coulson, and H. von Kolnitz.
Application of enclosed torch to estimation of arsenic in foods. Industrial and Engineering Chemistry, Analytical Edition, July 15, 1934. Easton, Pa.

STATISTICAL BULLETINS

Fisheries of the New England States, 1932. Statistical Bulletin No. 1074.
Fisheries of the Middle Atlantic States, 1932. Statistical Bulletin No. 1061.
Fisheries of the Chesapeake Bay States, 1932. Statistical Bulletin No. 1062.
Fisheries of the South Atlantic and Gulf States, 1932. Statistical Bulletin No. 1073.
Fisheries of the Pacific Coast States, 1932. Statistical Bulletin No. 1068.
Lake fisheries, 1932. Statistical Bulletin No. 1069.
Fisheries of the United States and Alaska, 1932. Statistical Bulletin No. 1075.
Fishery products frozen and cold storage holdings of frozen and cured fishery products in the United States and Alaska, 1933. Statistical Bulletin No. 1067.
Production of fresh and frozen packaged fish in the United States, 1933. Statistical Bulletin No. 1080.
Canned fishery products and byproducts of the United States and Alaska, 1933. Statistical Bulletin No. 1086.
Fisheries of Alaska, 1933. Statistical Bulletin No. 1085.
Landings by fishing vessels at principal New England ports, 1933—by months. Statistical Bulletin No. 1065.
Landings by fishing vessels at principal New England ports, 1933—by gear and fishing grounds. Statistical Bulletin No. 1079.
Fishery products landed by United States fishing vessels at Seattle, Wash., 1933. Statistical Bulletin No. 1081.

Part 2. FISHERY STATISTICS, 1933

GENERAL REVIEW

Available data for 1933 indicate an appreciable increase in both the volume and the value of the catch of fishery products in the United States and Alaska as compared with the preceding year. Statistics of the catch in the New England, Middle Atlantic, Chesapeake, and Pacific States, and Alaska were collected for 1933, and when considering the combined catch of these sections alone an increase of 13 percent in the volume and also 13 percent in the value of the catch in 1933 is indicated as compared with the same sections the previous year. This increase was accounted for principally in the Pacific Coast States and was reflected especially in increased catches of salmon, pilchard, and mackerel. The value of the production of canned fishery products in all sections increased 37 percent as compared with 1932; byproducts increased 40 percent; and frozen fish, 14 percent. The value of the production of packaged fish also increased.

The total catch of fishery products in the United States and Alaska as based on the most recent surveys, amounted to 2,899,048,000 pounds, valued at $60,218,000. About 117,000 fishermen were employed in making this catch.

In 1933 in the United States and Alaska, the production of canned fishery products amounted to 533,212,154 pounds, valued at $59,799,963; the output of byproducts was valued at $17,465,986; and the production of frozen fishery products amounted to 95,873,507 pounds, estimated to be valued at $8,000,000. Based on the most recent surveys the production of cured fishery products amounted to 104,310,213 pounds, valued at $12,823,491, and fresh and frozen packaged fish and shellfish, 129,608,348 pounds, valued at $17,294,092. It is estimated that about 500,000,000 pounds of fresh fishery products (excluding packaged fish and shellfish), valued at about $40,000,000, were marketed during 1933. The total marketed value to domestic primary handlers of all fishery products in 1933 is estimated at about $155,000,000.

Fishery products imported for consumption were valued at $30,462,341 and domestic exports were valued at $8,338,723.

New England States.—The catch in these States for 1933 showed an increase in volume as compared with the previous year but a decrease in value. The value was less than in any year for which there are records since 1902. There were increases in both the volume and value of the combined landings of fishery products by vessels at Boston and Gloucester, Mass., and Portland, Maine, and there was a large increase in production of Maine sardines. The quantity of fish frozen was practically the same as in 1932.

Middle Atlantic States.—The catch statistics for the Middle Atlantic States in 1933 showed an increase in both volume and value as compared with the previous year; however, with the exception of 1932 the value was less than in any year for which there are records. There was an increase in the production of frozen fish but a small decrease in the production of packaged fish. There was a decrease in the production of shad on the Hudson River.

Chesapeake Bay States.—In 1933 the catch of fishery products in the Chesapeake Bay States decreased sharply, the volume being less than in any year since 1888 and the value to the fishermen was less than in any year for which there are records. Menhaden products,

which are produced in Virginia, decreased in both volume and value and there was a decrease in the catch of shad in the Potomac River.

South Atlantic and Gulf States.—No survey for statistics of the catch of fishery products in these States was made for 1933. In 1932 the volume of the catch showed a small increase over the preceding year, but the value was less than in any year for which records were available since 1902. There was a considerable increase in the output of cannnd shrimp in 1933 but a decrease in the production of canned oysters.

Pacific Coast States.—Statistics of the Pacific Coast States for 1933 showed the largest volume of catch of fishery products of any year since 1929 and the largest value since 1930. There were increases in the packs of canned salmon, sardines, tuna and tunalike fishes, and mackerel and frozen fish.

Lake States.—No survey has yet been made for catch statistics of the fisheries of the Great Lakes and the international lakes of northern Minnesota for 1933. In 1932 the catch decreased somewhat under that of 1931.

Mississippi River and tributaries.—The most recent complete catch statistics of the fisheries of the Mississippi River and tributaries are those collected for the year 1931. As compared with 1922 when the most recent preceding survey was made, there was a decrease in the catch which was reflected principally in a smaller catch of fresh-water mussels. A survey made for Lakes Pepin and Keokuk and the Mississippi River between these two lakes showed a decrease in 1933 as compared with the preceding year. The production of mussel-shell buttons increased appreciably in 1933.

Alaska.—The catch of fishery products in Alaska in 1933 increased in both volume and value as compared with 1932. The pack of canned salmon was somewhat less in volume in 1933, but the value was considerably greater; the production of frozen fish increased in both volume and value; and the output of cured products decreased in volume and increased in value.

Fisheries of the United States and Alaska

SUMMARY OF CATCH: BY SECTIONS

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Products	New England, 1933, Area XXII		Middle Atlantic, 1933, Area XXIII		Chesapeake, 1933, Area XXIII		South Atlantic and Gulf, 1932, Areas XXIV and XXV		Pacific, 1933	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Fish	461, 621	9, 593	142, 771	2, 266	189, 708	2, 055	184, 158	2, 715	840, 523	12, 793
Shellfish, etc	38, 315	3, 893	26, 982	2, 545	82, 672	3, 006	115, 759	3, 713	15, 307	1, 111
Whale products									4, 331	84
Total	499, 936	13, 486	169, 753	4, 811	272, 380	5. 061	299, 917	6, 428	860, 161	13, 988

Products	Lakes, 1932		Mississippi River and tributaries, 1931		Alaska, 1933		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Fish	81, 829	4, 361	44, 062	2, 257	624, 687	8, 941	2, 569, 359	44, 981
Shellfish, etc	1, 915	28	38, 321	640	2, 709	148	321, 980	15, 084
Whale products					3, 378	69	7, 709	153
Total	83, 744	4, 389	82, 383	2, 897	630, 774	9, 158	2, 899, 048	60, 218

NOTE.—The roman numerals appearing under the names of the sections are the numbers given these areas by the North American Council on Fishery Investigations. It should be explained that there are included under these areas craft whose principal fishing ports are in the respective areas but at times they may fish elsewhere.

Fisheries of the United States and Alaska—Continued

OPERATING UNITS: By SECTIONS

Item	New England, 1933	Middle Atlantic, 1933	Chesapeake, 1933	South Atlantic and Gulf,[1] 1932	Pacific, 1933
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	5,049	2,442	2,125	2,409	6,512
On boats and shore	12,024	6,132	18,017	19,151	12,161
Total	17,073	8,574	20,142	21,560	18,673
Vessels:					
Steam	24	19	25	-------	5
Net tonnage	2,879	3,010	2,831	-------	116
Motor	570	384	105	441	919
Net tonnage	16,602	6,121	1,761	6,646	24,866
Sail	1	4	157	71	5
Net tonnage	47	32	1,749	841	2,173
Total vessels	595	407	287	512	929
Total net tonnage	19,528	9,163	6,341	7,487	27,155
Boats:					
Motor	4,581	1,747	7,492	5,052	5,283
Other	3,819	2,123	5,937	7,797	1,238
Accessory boats	1,227	157	102	85	-------
Apparatus:					
Haul seines	79	249	524	891	131
Purse seines	178	27	34	42	430
Lampara nets	-------	-------	-------	-------	201
Otter trawls (including all types and sizes)	566	197	27	1,680	18
Beam trawls	-------	-------	-------	-------	32
Paranzella nets	-------	-------	-------	-------	13
Gill nets	7,348	1,529	9,376	10,860	4,171
Trammel nets	-------	-------	-------	358	52
Pound nets, trap nets, and weirs	457	574	2,570	1,737	436
Stop nets	-------	96	6	7	-------
Fyke nets	121	2,667	2,830	1,085	2,591
Bag nets and pocket nets	144	-------	-------	-------	44
Other nets [3]	423	433	3,133	2,062	370
Hooks, baits, or snoods	3,617,680	622,304	1,437,984	324,694	1,245,282
Fish wheels	-------	-------	-------	21	29
Eel pots and traps	4,774	7,324	8,870	1,325	-------
Lobster pots	319,460	46,576	-------	-------	6,099
Crab, shrimp, crawfish pots, traps, drags, etc	3,407	10	-------	4,635	20,334
Clam dredges	75	90	-------	1	-------
Crab dredges	-------	86	130	-------	-------
Mussel dredges	1	2	-------	-------	-------
Oyster dredges	107	353	716	577	4
Scallop dredges and drags	2,569	260	2	64	-------
Crab scrapes	-------	-------	683	-------	-------
Tongs, rakes, hoes, forks, picks, grabs, etc	4,509	3,229	9,423	2,920	-------
Abalone diving outfits	-------	-------	-------	-------	17
Sponge diving outfits	-------	-------	-------	54	-------
Other apparatus [5]	3,007	200	2	2,593	54

Item	Lakes, 1932	Mississippi River and tributaries, 1931	Alaska, 1933	Total
Fishermen:	*Number*	*Number*	*Number*	*Number*
On vessels	1,705	-------	[2] 8,656	28,898
On boats and shore	5,227	15,884	-------	88,596
Total	6,932	15,884	8,656	117,494
Vessels:				
Steam	106	-------	3	182
Net tonnage	2,364	-------	217	11,417
Motor	392	-------	504	3,315
Net tonnage	4,055	-------	7,370	67,421
Sail	-------	-------	-------	238
Net tonnage	-------	-------	-------	4,842
Total vessels	498	-------	507	3,735
Total net tonnage	6,419	-------	7,587	83,680

[1] Includes the fisheries of Lake Okeechobee, Fla.
[2] Includes persons in boat and shore fisheries.
[3] Includes dip nets, push nets, reef nets, cast nets, scap nets, and drag nets.
[5] Includes periwinkle, cockle, and fish pots; harpoons; spears; baskets; and box traps.

Fisheries of the United States and Alaska—Continued

OPERATING UNITS: By sections—Continued

Item	Lakes, 1932	Mississippi River and tributaries, 1931	Alaska, 1933	Total
Boats:	*Number*	*Number*	*Number*	*Number*
Motor	1,624	4,426	1,032	31,237
Other	1,535	10,120	3,186	35,755
Accessory boats				1,571
Apparatus:				
Haul seines	332	1,013	102	3,321
Purse seines			445	1,156
Lampara nets				201
Otter trawls (including all types and sizes)				2,488
Beam trawls			11	43
Paranzella nets				13
Gill nets	103,518	101	3,346	140,249
Trammel nets	226	518		1,154
Pound nets, trap nets, and weirs	9,259	374	416	15,823
Stop nets				109
Fyke nets	2,574	32,541		44,409
Bag nets and pocket nets				188
Other nets [3]		191		6,612
Hooks, baits, or snoods	960,513	2,459,179	[4]	10,667,636
Fish wheels			280	330
Eel pots and traps				22,293
Lobster pots				372,135
Crab, shrimp, crawfish pots, traps, drags, etc	2,910	456	992	32,744
Clam dredges				166
Crab dredges				216
Mussel dredges		440		443
Oyster dredges				1,757
Scallop dredges and drags				2,895
Crab scrapes				683
Tongs, rakes, hoes, forks, picks, grabs, etc	126	3,994		24,201
Abalone diving outfits				17
Sponge diving outfits				54
Crowfoot bars	360	4,480		4,840
Other apparatus [5]		3,781		9,637

CATCH: By sections

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	New England, 1933		Middle Atlantic, 1933		Chesapeake, 1933		South Atlantic and Gulf, 1932[1]		Pacific, 1933	
FISH	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Alewives	2,817	17	1,390	10	25,727	130	6,664	42		
Amberjack	2	[6]					5	[6]		
Anchovies									317	4
Barracuda							4	[6]	3,073	123
Black bass					77	6	310	22		
Bluefish	921	76	3,252	132	803	35	2,131	78		
Blue runner or hardtail							163	2		
Bonito	52	2	247	14	19	1				
Bowfin							2	[6]		
Buffalofish							12	1		
Butterfish	1,554	68	4,410	180	2,875	68	55	1		
Cabio or crab eater					20	1	6	[6]		
Cabrilla									85	3
Carp			390	35	598	28	128	6	411	3
Catfish and bullheads			76	6	982	32	4,364	139	172	20
Cero			3	[6]			13	1		
Cigarfish							9	[6]		
Cod	99,632	1,856	7,493	213	7	[6]	2	[6]	16,036	156
Corbina									[6]	[6]
Crappie					1	[6]	405	12		
Crevalle	2	[6]	7	[6]			25	1		
Croaker	2,497	36	2,048	48	16,042	211	4,675	50		
Cunner	42	1								
Cusk	6,109	73	4	[6]						
Dolphin			[6]	[6]	1	[6]	12	[6]		
Drum:										
Black	[6]	[6]	[6]	[6]	123	2	1,077	21		
Red or redfish	2	[6]	9	[6]	59	2	2,083	78		

[1] Includes the fisheries of Lake Okeechobee, Fla.
[3] Includes dip nets, push nets, reef nets, cast nets, scrap nets, and drag nets.
[4] Number not determined.
[5] Includes periwinkle, cockle, and fish pots; harpoons; spears; baskets and box traps.
[6] Less than 500 pounds or dollors.

Fisheries of the United States and Alaska—Continued

CATCH: BY SECTIONS—Continued

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	New England, 1933		Middle Atlantic, 1933		Chesapeake, 1933		South Atlantic and Gulf, 1932		Pacific, 1933	
FISH	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Eels:										
Common	518	35	680	60	312	16	65	2		
Conger	41	1	16	1						
Flounders	37,795	1,173	9,253	363	1,153	55	1,396	54	11,036	457
Flyingfish									16	1
Frigate mackerel	125	4	102	2			2	(6)		
Garfish							(6)	(6)		
Gizzard shad					144	3	19	(6)		
Goosefish			10	(6)						
Grayfish	13	(6)	7	(6)					471	9
Groupers							3,301	67		
Grunts							51	2		
Haddock	160,106	3,646	8,507	248	(6)	(6)				
Hake	15,320	203	162	3	23	1	10	(6)	38	(6)
Halibut	2,457	236	53	7					24,497	1,568
Hardhead									157	8
Harvestfish or "starfish"					180	4	1,077	12		
Herring:										
Round			1	(6)						
Sea	48,086	211	666	6					1,214	9
Herring smelt	12	(6)								
Hickory shad	2	(6)	1	(6)	68	2	167	6		
Hogfish							29	1		
Horse mackerel									1,011	12
Jewfish							38	1		
Kingfish (California)									564	12
Kingfish or "king mackerel"			(6)	(6)			3,301	120		
King whiting or "kingfish"	40	1	158	15	74	2	652	13		
Ladyfish							3	(6)		
Launce	21	(6)								
"Lingcod"									1,972	58
Mackerel	40,832	878	662	22	43	1			69,615	420
Marlin									7	(6)
Menhaden	1,029	3	79,576	236	115,990	386	89,346	132		
Mojarro							36	1		
Mullet	9	(6)	318	9	64	3	25,088	417	24	1
Mummichog			51	4						
Muttonfish							203	9		
Paddlefish or "spoonbill cat"							1	(6)		
Permit							3	(6)		
Pigfish	4	(6)	(6)	(6)	61	(6)	129	2		
Pike or pickerel (jacks)			(6)	(6)	29	4	5	(6)		
Pilchard									509,805	1,505
Pinfish							295	2		
Pollock	15,027	164	776	12	(6)	(6)				
Pompano			(6)	(6)	4	(6)	590	81	5	2
Porkfish							(6)	(6)		
Rock bass									349	15
Rockfishes									5,138	164
Rosefish	264	3								
Rudderfish									13	1
Sablefish									2,716	74
Salmon:										
Atlantic	25	6								
Blueback, red or sockeye									9,866	875
Chinook or king									35,114	2,105
Chum or keta									8,071	181
Humpback or pink									38,599	907
Silver or coho									15,042	600
Sculpin									68	4
Scup or porgies	4,195	89	6,359	92	1,589	38	279	7		
Sea bass	3,999	121	2,475	87	342	10	704	24	449	18
Sea bass, white (California)									1,163	69
Sea robin	77	1	30	(6)	(6)	(6)				
Shad	386	16	834	76	6,191	573	1,882	240	1,606	36
Sharks	66	1	12	(6)	10	(6)	5,051	12		
Sheepshead, salt-water	(6)	(6)	(6)	(6)			673	14	59	1
Silver perch					1	(6)				
Silversides			23	3						
Skates	240	2	84	1					194	2
Skipper or "billfish"	5	(6)								

6 Less than 500 pounds or dollars.

Fisheries of the United States and Alaska—Continued

CATCH: BY SECTIONS—Continued

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	New England, 1933		Middle Atlantic, 1933		Chesapeake, 1933		South Atlantic and Gulf, 1932		Pacific, 1933	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
FISH—continued										
Smelt	551	60	(6)	(6)					2,560	64
Snapper:										
Mangrove							96	2		
Red							6,359	315		
Snook							323	8		
Spanish mackerel			7	(6)	68	4	6,465	217	4	(6)
Splittail									17	(6)
Spot	33	(6)	528	8	747	19	1,680	20		
Squawfish									1	(6)
Squeteague or "sea trout":										
Gray	369	14	7,874	227	13,464	263	3,992	74		
Spotted	2	(6)	(6)	(6)	173	14	6,239	298		
Squirrel hake			53	(6)						
Steelhead trout									2,702	142
Striped bass	61	7	40	6	833	101	507	54	510	28
Sturgeon	8	1	29	3	9	2	45	5	91	2
Suckers	52	2	172	13	8	(6)	(6)	(6)	14	(6)
Sunfish			1	(6)	2	(6)	718	18		
Surffishes (perch)									250	9
Swellfish			2	(6)	1	(6)				
Swordfish	3,381	404	103	13					851	71
Tai									(6)	(6)
Tautog	484	16	132	12	6	(6)				
Tenpounder							80	1		
Thimble-eyed mackerel	78	2	25	(6)	11	(6)				
Tilefish	207	10	1,350	68						
Tomcod	2	(6)	8	(6)					1	(6)
Tripletail							2	(6)		
Tuna and tunalike fishes:										
Albacore									2	(6)
Bluefin or horse mackerel	402	18	43	2			3	(6)	561	29
Bonito									2,252	40
Skipjack or striped									16,687	613
Yellowfin									51,076	2,275
Turbot							4	(6)		
Whitebait			3	1					96	3
Whitefish									95	4
White perch	50	7	75	5	533	26	832	21		
Whiting	9,419	97	2,147	21	1	(6)				
Wolffish	2,197	32	26	1						
Yellow perch	1	(6)	8	1	240	12	180	5		
Yellowtail							92	4	3,899	88
Miscellaneous fish									151	2
Total	461,621	9,593	142,771	2,266	189,708	2,055	184,158	2,715	840,523	12,793
SHELLFISH, ETC.										
Abalone									551	80
Clams:										
Coquina							5	(6)		
Hard	3,039	375	3,621	532	1,211	268	1,387	61	576	31
Pismo									26	6
Razor	358	16							587	84
Soft	9,431	476	1,135	64					63	14
Surf	59	4	526	24						
Mixed									16	1
Conchs			35	2			2	(6)		
Crabs:										
Hard	5,629	40	955	25	50,559	616	8,484	89	6,176	355
King	7	(6)	2,750	7						
Soft			94	20	5,517	382	413	60		
Stone							154	8		
Crawfish									99	10
Lobsters:										
Common	9,088	1,608	724	138	(6)	(6)				
Spiny							445	32	1,050	145
Mussels, sea	141	6	53	3					(6)	(6)
Octopus							1	(6)	56	3

6 Less than 500 pounds or dollars.

Fisheries of the United States and Alaska—Continued

CATCH: BY SECTIONS—Continued

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	New England, 1933		Middle Atlantic, 1933		Chesapeake, 1933		South Atlantic and Gulf, 1932		Pacific, 1933	
SHELLFISH ETC.—CON.										
Oysters:	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Eastern, market, public	87	12	178	20	14,900	914	11,382	447		
Eastern, market, private	5,070	735	13,755	1,428	10,253	812	4,368	264	60	23
Western, market									226	120
Japanese, market									2,843	187
Periwinkles and "cockles"	191	12	(6)	(6)						
Scallops:										
Bay	621	204	49	17			153	14	10	2
Sea	2,158	267	2,197	216	73	8				
Shrimp	41	2	86	15	(6)	(6)	88,262	2,036	2,141	36
Squid	1,076	19	792	16	145	3	9	(6)	824	14
Terrapin			1	(6)	12	3	23	4		
Turtles			11	1	2	(6)	58	1	3	(6)
Frogs							1	(6)		
Irish moss	12	1								
Sponges							612	697		
Bloodworms	661	71	11	10						
Sandworms	640	45	9	7						
Sea urchins	6	(6)								
Total	38,315	3,893	26,982	2,545	82,672	3,006	115,759	3,713	15,307	1,111
WHALE PRODUCTS [7]										
Meat									2,214	43
Oil, whale									2,117	41
Total									4,331	84
Grand total	499,936	13,486	169,753	4,811	272,380	5,061	299,917	6,428	860,161	13,988

Species	Lakes, 1932		Mississippi River and tributaries, 1931		Alaska, 1933		Total	
FISH	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Alewives							36,598	199
Amberjack							7	(6)
Anchovies							317	4
Barracuda							3,077	123
Black bass			14	1			401	29
Bluefish							7,107	321
Blue pike	9,947	411					9,947	411
Blue runner or hardtail							163	2
Bonito							318	17
Bowfin	3	(6)	428	9			433	9
Buffalofish	2	(6)	15,772	687			15,786	688
Butterfish							8,894	317
Burbot	331	4					331	4
Cabio or crab eater							26	1
Cabrilla							85	3
Carp	4,284	119	11,892	456			17,433	647
Catfish and bullheads	833	46	10,267	878			16,694	1,121
Cero							16	1
Chubs	4,056	248					4,056	248
Cigarfish							9	(6)
Cisco	160	17					160	17
Cod					828	6	123,998	2,231
Corbina							(6)	(6)
Crappie	1	(6)	41	3			448	15
Crevalle							34	1
Croaker							25,262	345
Cunner							42	1
Cusk							6,113	73
Dolly Varden trout					44	2	44	2
Dolphin							13	(6)

[6] Less than 500 pounds or dollars.

[7] The weight of whales caught was not determined; therefore, the weight of the manufactured products is shown.

Fisheries of the United States and Alaska—Continued

CATCH: BY SECTIONS—Continued

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	Lakes, 1932		Mississippi River and tributaries, 1931		Alaska, 1933		Total	
FISH—continued	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Drum:								
Black							1,200	23
Red or redfish							2,153	80
Eels:								
Common	43	1	7	1			1,625	115
Conger							57	2
Flounders					83	1	60,716	2,103
Flyingfish							16	1
Frigate mackerel							229	6
Garfish			73	1			73	1
Gizzard shad							163	3
Goldfish	49	1					49	1
Goosefish							10	(6)
Grayfish							491	9
Groupers							3,301	67
Grunts							51	2
Haddock							168,613	3,894
Hake							15,553	207
Halibut					15,632	726	42,639	2,537
Hardhead							157	8
Harvestfish or "starfish"							1,257	16
Herring:								
Round							1	(6)
Lake	11,686	181					11,686	181
Sea					140,581	703	190,547	929
Herring smelt							12	(6)
Hickory shad							238	8
Hogfish							29	1
Horse mackerel							1,011	12
Jewfish							38	1
Kingfish (California)							564	12
Kingfish or "king mackerel"							3,301	120
King whiting or "kingfish"							924	31
Ladyfish							3	(6)
Lake trout	10,662	920					10,662	920
Launce							21	(6)
"Lingcod"							1,972	58
Mackerel							111,152	1,321
Marlin							7	(6)
Menhaden							235,941	757
Minnows			1	(6)			1	(6)
Mojarro							36	1
Mooneye	16	(6)	3	(6)			19	(6)
Mullet							25,503	430
Mummichog							51	4
Muttonfish							203	9
Paddlefish or "spoonbill cat"			952	43			953	43
Permit							3	(6)
Pigfish							194	2
Pike or pickerel (jacks)	373	16	5	1			412	21
Pilchard							509,805	1,505
Pinfish							295	2
Pollock							15,803	176
Pompano							599	83
Porkfish							(6)	(6)
Quillback			268	11			268	11
Rock bass	17	1					366	16
Rockfishes					5	(6)	5,143	164
Rosefish							264	3
Rudderfish							13	1
Sablefish					152	5	2,868	79
Salmon:								
Atlantic							25	6
Blueback, red or sockeye					209,325	3,749	219,191	4,624
Chinook or king					12,175	264	47,289	2,319
Chum or keta					71,030	707	79,101	888
Humpback or pink					159,090	2,522	197,689	3,429
Silver or coho					15,729	256	30,771	856
Sauger	3,448	136	2	(6)			3,450	136
Sculpin							68	4
Scup or porgies							12,422	226
Sea bass							7,969	260
Sea bass, white (California)							1,163	69
Sea robin							107	1
Shad							10,899	941

6 Less tean 500 pounds or dollars.

Fisheries of the United States and Alaska—Continued

CATCH: BY SECTIONS—Continued

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	Lakes, 1932		Mississippi River and tributaries, 1931		Alaska, 1933		Total	
FISH—continued	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Sharks							5,139	13
Sheepshead:								
Fresh-water	2,158	44	3,905	143			6,063	187
Salt-water							732	15
Silver perch							1	(6)
Silversides							23	3
Skates							518	5
Skipper or "billfish"							5	(6)
Smelt	98	3			1	(6)	3,210	127
Snapper:								
Mangrove							96	2
Red							6,359	315
Snook							323	8
Spanish mackerel							6,544	221
Splittail							17	(6)
Spot							2,988	47
Squawfish							1	(6)
Squeteague or "sea trout":								
Gray							25,699	578
Spotted							6,414	312
Squirrel hake							53	(6)
Steelhead trout	5	1			12	(6)	2,719	143
Striped bass							1,951	196
Sturgeon	30	6					212	19
Sturgeon, shovelnose			87	8			87	8
Suckers	6,192	137	315	13			6,753	165
Sunfish	8	(6)	22	1			751	19
Surffishes (perch)							250	9
Swellfish							3	(6)
Swordfish							4,335	488
Tai							(6)	(6)
Tautog							622	28
Tenpounder							80	1
Thimble-eyed mackerel							114	2
Tilefish							1,557	78
Tomcod							11	(6)
Tripletail							2	(6)
Tullibee	1,297	16					1,297	16
Tuna and tunalike fishes:								
Albacore							2	(6)
Bluefin or horse mackerel							1,009	49
Bonito							2,252	40
Skipjack or striped							16,687	613
Yellowfin							51,076	2,275
Turbot							4	(6)
White bass	253	10	3	(6)			256	10
Whitebait							99	4
Whitefish	9,731	1,102					9,826	1,106
Whitefish, Menominee	233	17					233	17
White perch							1,490	59
Whiting							11,567	118
Wolffish							2,223	33
Yellow perch	11,472	467					11,901	485
Yellow pike	4,441	457	5	1			4,446	458
Yellowtail							3,991	92
Miscellaneous fish							151	2
Total	81,829	4,361	44,062	2,257	624,687	8,941	2,569,359	44,981
SHELLFISH, ETC.								
Abalone							551	80
Clams:								
Coquina							5	(6)
Hard					4	(6)	9,838	1,267
Pismo							26	6
Razor					1,042	49	1,987	149
Soft							10,629	554
Surf							585	28
Mixed							16	1
Conchs							37	2
Crabs:								
Hard					1,083	78	72,886	1,203
King							2,757	7
Soft							6,024	462
Stone							154	8

6 Less than 500 pounds or dollars.

Fisheries of the United States and Alaska—Continued

CATCH: BY SECTIONS—Continued

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Species	Lakes, 1932		Mississippi River and tributaries, 1931		Alaska, 1933		Total	
SHELLFISH, ETC.—continued	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Crawfish	20	1	29	(6)			148	11
Lobsters:								
Common							9,812	1,746
Spiny							1,495	177
Mussels, sea							194	9
Mussel shells	1,895	26	37,255	421			39,150	447
Octopus							57	3
Oysters:								
Eastern, market, public							26,547	1,393
Eastern, market, private							33,506	3,262
Western, market							226	120
Japanese, market							2,843	187
Periwinkles and "cockles"							191	12
Scallops:								
Bay							833	237
Sea							4,428	491
Shrimp			49	4	580	21	91,159	2,114
Squid							2,846	52
Terrapin			19	1			55	8
Turtles			94	3			168	5
Frogs			875	131			876	131
Irish moss							12	1
Sponges							612	697
Bloodworms							672	81
Sandworms							649	52
Pearls and slugs		1		80				81
Sea urchins							6	(6)
Total	1,915	28	38,321	640	2,709	148	321,980	15,084
WHALE PRODUCTS								
Meat							2,214	43
Fertilizer					1,034	14	1,034	14
Oil, sperm					84	2	84	2
Oil, whale					2,260	53	4,377	94
Total					3,378	69	7,709	153
Grand total	83,744	4,389	82,383	2,897	630,774	9,158	2,899,048	60,218

CATCH: BY STATES [8]

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

States	Marine and coastal rivers		Mississippi River and tributaries		Lakes [9]		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Alabama	6,107	169	1,822	33			7,929	202
Arkansas			15,733	412			15,733	412
California	706,899	7,094					706,899	7,094
Connecticut	9,878	613					9,878	613
Delaware	36,527	209					36,527	209
Florida	101,920	2,917			1,370	56	103,290	2,973
Georgia	16,523	186					16,523	186
Illinois			14,263	367	885	58	15,148	425
Indiana			7,718	157	630	37	8,348	194
Iowa			7,778	303			7,778	303
Kansas			455	17			455	17
Kentucky			1,622	61			1,622	61
Louisiana	48,340	1,181	19,213	994			67,553	2,175
Maine	98,498	2,307					98,498	2,307

[6] Less than 500 pounds or dollars.

[8] The catch under "Marine and coastal rivers" is for 1933 except in the South Atlantic and Gulf States which is for 1932; the catch of the "Mississippi River and tributaries" is for 1931; and the catch of the "Lakes" is for 1932.

[9] Includes Lake Ontario, Lake Erie, Lake Huron, Lake Michigan, Lake Superior, Rainy Lake, Namakan Lake, Lake of the Woods, Lake Okeechobee, and several mussel-bearing streams tributary to Lakes Huron, Erie, and Michigan.

Fisheries of the United States and Alaska—Continued

CATCH: BY STATES

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

States	Marine and coastal rivers		Mississippi River and tributaries		Lakes		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Maryland	55,362	1,734					55,362	1,734
Massachusetts	373,670	9,507					373,670	9,507
Michigan					30,130	2,162	30,130	2,162
Minnesota			3,498	138	8,507	199	12,005	337
Mississippi	20,603	497	2,650	123			23,253	620
Missouri			928	77			928	77
Nebraska			145	16			145	16
New Hampshire	523	57					523	57
New Jersey	93,263	2,146					93,263	2,146
New York	39,911	2,453			1,435	112	41,346	2,565
North Carolina	86,214	827					86,214	827
Ohio			185	7	28,516	1,161	28,701	1,168
Oklahoma			40	4			40	4
Oregon	24,533	1,210					24,533	1,210
Pennsylvania	52	3			2,535	167	2,587	170
Rhode Island	17,366	1,001					17,366	1,001
South Carolina	4,536	123					4,536	123
South Dakota			114	11			114	11
Tennessee			3,435	104			3,435	104
Texas	14,304	472	139	6			14,443	478
Virginia	217,018	3,327					217,018	3,327
Washington	128,730	5,684					128,730	5,684
Wisconsin			2,645	68	11,107	493	13,752	561
Alaska	630,773	9,158					630,773	9,158
Total	2,731,550	52,875	82,383	2,898	85,115	4,445	2,899,048	60,218

SEED OYSTER FISHERY

Item	New England, 1933		Middle Atlantic, 1933	
OPERATING UNITS				
Fishermen:	*Number*		*Number*	
On vessels	93		1,586	
On boats and shore:				
Regular	5		298	
Casual	160		150	
Total	258		2,034	
Vessels:				
Steam	3			
Net tonnage	245			
Motor	18		7	
Net tonnage	271		69	
Sail	2		146	
Net tonnage	17		2,977	
Total vessels	23		153	
Total net tonnage	533		3,046	
Boats:				
Motor	7		206	
Other	90		152	
Apparatus:				
Dredges, oyster	101		300	
Yards at mouth	97		363	
Tongs	96		374	
Rakes	46		79	
CATCH				
Oysters:	*Bushels*	*Value*	*Bushels*	*Value*
Seed, public, spring	31,458	$12,684	1,003,540	$261,862
Seed, public, fall	43,163	17,265	23,500	8,250
Seed, private, spring	207,185	69,617	40,290	39,540
Seed, private, fall			38,290	38,290
Total	281,806	99,566	1,105,620	347,942

Fisheries of the United States and Alaska—Continued

SEED OYSTER FISHERY—Continued

Item	Chesapeake, 1933		South Atlantic and Gulf, 1932		Total	
OPERATING UNITS						
Fishermen:	*Number*		*Number*		*Number*	
On vessels					1,679	
On boats and shore:						
Regular	1,650		12		1,965	
Casual	67				377	
Total	1,717		12		4,021	
Vessels:						
Steam					3	
Net tonnage					245	
Motor					25	
Net tonnage					340	
Sail					148	
Net tonnage					2,994	
Total vessels					176	
Total net tonnage					3,579	
Boats:						
Motor	804		6		1,023	
Other	286				528	
Apparatus:						
Dredges, oyster			12		413	
Yards at mouth			12		472	
Tongs	1,474				1,944	
Rakes	130				255	
CATCH						
Oysters:	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*
Seed, public, spring	574,620	$60,880	39,741	$8,280	1,649,359	$343,706
Seed, public, fall	815,240	85,934			881,903	111,449
Seed, private, spring	35,600	7,720			283,075	116,877
Seed, private, fall	56,800	11,360			95,090	49,650
Total	1,482,260	165,894	39,741	8,280	2,909,427	621,682

NOTE.—Of the number of persons fishing for seed oysters, a total of 3,652 are duplicated among those fishing for market oysters or other species. Similarly, the following craft and gear are duplicated: 87 vessels, 823 motor boats, 437 other boats, 172 dredges, 1,570 tongs, and 61 rakes.

Yield of the fisheries of the United States: By gear

Gear	New England, 1933		Middle Atlantic, 1933		Chesapeake, 1933	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Purse seines	56,586,422	$796,362	77,945,874	$205,503	115,343,100	$384,227
Haul seines	910,017	32,041	1,845,557	70,568	3,669,524	154,091
Gill nets	18,593,520	359,016	2,517,827	117,750	1,846,636	147,762
Lines	99,382,952	2,167,473	7,633,174	292,745	42,619,655	489,041
Pound nets	14,419,422	227,622	28,325,529	692,557	62,619,356	1,215,833
Floating traps	8,458,029	159,754				
Other traps	28,910	2,512				
Weirs	21,801,005	92,599	893,336	2,485		
Stop nets			208,874	20,472	63,504	2,308
Fyke nets	81,216	3,192	694,092	21,736	923,307	40,709
Dip nets	3,640,232	45,571	86,022	16,852	4,662,036	305,638
Cast nets			400	48		
Scap nets			149,664	8,574		
Bag and pocket nets	116,068	13,039				
Drag nets			51,900	10,855		
Push nets	18,000	7,000				
Otter trawls	235,003,844	5,296,742	24,410,956	780,076	5,455,375	129,812
Pots	15,081,503	1,673,370	[1] 2,369,400	[1] 203,269	167,225	9,452
Harpoons	3,481,594	406,727	102,386	12,549		
Spears	106,663	7,537	126,568	12,682	6,000	300
Scrapes, crab					2,001,916	65,929
Dredges	8,311,071	1,224,218	17,238,166	1,698,835	13,573,634	638,012
Tongs	1,443,961	202,993	2,618,049	372,867	18,357,340	1,309,318
Rakes	1,129,890	145,761	1,281,227	179,516	690,140	75,133
Forks	2,811,825	283,046	171,093	29,770		
Hoes	8,378,980	333,750	913,560	45,752		
Picks					279,864	69,464
Gaffs			750	75		
By hand	151,015	5,225	169,331	15,519	101,440	23,800
Total	499,936,139	13,485,550	169,753,735	4,811,055	272,380,052	5,060,829

Yield of the fisheries of the United States: By gear—Continued

Gear	South Atlantic and Gulf, 1932		Pacific, 1933		Lakes, 1932	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Purse seines	89,971,248	$163,404	423,204,286	$2,672,000		
Haul seines	24,175,742	602,678	3,824,178	199,434	4,538,616	$129,882
Gill nets	38,137,303	943,195	30,252,256	1,369,692	32,046,421	1,766,456
Trammel nets	3,159,789	118,055	661,335	41,492	205,545	4,140
Lines	25,218,356	764,227	136,182,745	5,680,665	2,307,481	206,357
Pound nets	10,763,098	190,839	26,648,553	1,297,707	9,207,975	466,941
Traps (other than floating)					30,098,291	1,626,039
Weirs	2,000	20	467,200	4,672		
Wheels	263,000	1,505	763,235	56,339		
Stop nets	891,793	15,055				
Fyke nets	345,520	10,661	197,393	20,701	3,425,469	161,008
Dip nets	491,388	27,215	1,848,148	51,968		
Drag bag nets			136,587	5,838		
Cast nets	108,932	3,994				
Bag and pocket nets			1,494,768	22,422		
Reef nets			177,315	5,612		
Lampara nets			203,895,501	863,526		
Paranzella nets			11,549,104	451,971		
Otter trawls	87,089,274	2,016,418	789,873	21,061		
Beam trawls			656,187	15,548		
Pots	1,117,738	50,446	7,264,551	506,478	19,677	984
Harpoons			5,190,295	155,663		
Spears	155,803	9,036				
Dredges	7,373,518	297,347	(2)	(2)		
Tongs	6,049,736	368,583	[2] 4,396,438	[2] 464,770		
Crowfoot bars					1,468,430	21,071
Rakes	312,476	20,913	(2)	(2)		
Forks	281,340	11,356				
Grabs	2,693,154	56,533				
Picks					246,966	3,647
Hooks	335,203	234,967				
Diving apparatus, abalone and sponge	278,824	462,077	351,268	80,433		
By hand	701,493	59,861			179,518	2,536
Total	299,916,728	6,428,385	860,161,216	13,987,992	83,744,389	4,389,061

Gear	Mississippi River and tributaries, 1931		Total	
	Pounds	*Value*	*Pounds*	*Value*
Purse seines			763,050,930	$4,221,496
Haul seines	13,739,657	$574,541	52,703,291	1,763,235
Gill nets	166,598	6,547	123,570,561	4,710,418
Trammel nets	1,134,206	75,615	5,160,875	239,302
Lines	10,140,037	772,245	323,484,400	10,372,753
Pound nets	224,275	9,541	152,208,208	4,101,040
Floating traps			8,458,029	159,754
Other traps			30,127,201	1,628,551
Weirs			23,163,541	99,776
Wheels			1,026,235	57,844
Stop nets			1,164,171	37,835
Fyke nets	18,507,204	797,130	24,174,201	1,055,137
Dip nets	30,045	3,307	10,757,871	450,551
Drag bag nets			136,587	5,838
Cast nets			109,332	4,042
Scap nets			149,664	8,574
Bag and pocket nets			1,610,836	35,461
Drag nets			51,900	10,855
Push nets			18,000	7,000
Reef nets			177,315	5,612
Lampara nets			203,895,501	863,526
Paranzella nets			11,549,104	451,971
Otter trawls			352,749,322	8,244,109
Beam trawls			656,187	15,548
Pots	[1] 310,455	[1] 26,277	26,330,549	2,470,276
Harpoons			8,774,275	574,939
Spears	2,250	270	397,284	29,825
Scrapes, crab			2,001,916	65,929
Dredges	3,699,100	40,958	50,195,489	3,899,370
Tongs	1,601,876	21,091	34,467,400	2,739,622
Crowfoot bars	20,893,550	265,443	22,361,980	286,514
Rakes	370,130	4,029	3,783,863	425,352
Forks	4,812,737	76,214	8,076,995	400,386
Hoes			9,292,540	379,502
Grabs	873,099	130,621	3,566,253	187,154
Picks			526,830	73,111
Hooks			335,203	234,967
Diving apparatus, abalone and sponge			830,092	542,510
Gaffs			750	75
By hand	5,877,304	93,528	7,180,101	200,469
Total	82,382,523	2,897,357	2,268,274,782	51,060,229

[1] Includes the catch by baskets.
[2] The catch by shovels, rakes, and dredges is included with tongs.

Industries related to the fisheries of the United States and Alaska

Item	New England, 1933	Middle Atlantic, 1933	Chesapeake, 1933	South Atlantic and Gulf, 1931
Transporting:				
Persons engaged:				
On vessels	256	110	869	354
On boats	54	92	25	389
Total	310	202	894	743
Vessels:				
Steam	1			
Net tonnage	67			
Motor	104	30	421	152
Net tonnage	1,615	629	4,929	1,440
Sail			11	30
Net tonnage			307	279
Total vessels	105	30	432	182
Total net tonnage	1,682	629	5,236	1,719
Boats	31	87	102	251
Wholesale and manufacturing:				
Establishments	362	398	502	585
Persons engaged:				
Proprietors	266	358	664	700
Salaried employees	799	1,067	315	352
Wage earners:				
Average for season	8,112	4,206	10,617	12,583
Average for year	4,170	2,948	4,704	4,581
Salaries and wages paid	$5,410,072	$6,085,981	$2,366,762	$2,821,543
Manufactured products [4]	$14,322,274	$10,603,564	$7,245,169	[5] $7,680,627
Fishermen's manufactured products:				
Persons engaged	2,223	512	14	1,379
Products [4]	$553,235	$260,146	$3,548	$258,805

Item	Pacific, 1933	Lakes, 1931	Mississippi River and tributaries, 1931	Alaska, 1933	Total
Transporting:					
Persons engaged:					
On vessels	245	19	29	1,283	3,165
On boats				(1)	560
Total	245	19	29	1,283	3,725
Vessels:					
Steam				10	11
Net tonnage				18,367	18,434
Motor	104	9	8	282	1,110
Net tonnage	2,328	120	104	10,982	22,147
Sail					41
Net tonnage					586
Total vessels	104	9	8	292	1,162
Total net tonnage	2,328	120	104	29,349	41,167
Boats				[2] 618	1,089
Wholesale and manufacturing:					
Establishments	313	230	217	224	2,831
Persons engaged:					
Proprietors	347	225	204		
Salaried employees	747	471	355	11,756	70,824
Wage earners:					
Average for season	10,899	1,506	4,275		
Average for year	3,667	1,034	3,483	(3)	(3)
Salaries and wages paid	$6,095,492	$2,610,439	$3,080,430	(3)	(3)
Manufactured products [4]	$28,772,185	[5] $1,891,558	[5] $3,723,414	$31,099,801	$105,338,592
Fishermen's manufactured products:					
Persons engaged	168	106	216	(3)	(3)
Products [4]	$174,569	$63,844	$8,751	(3)	(3)

[1] Included in vessels.
[2] Includes scows, houseboats, pile drivers, etc.
[3] Statistics not available.
[4] Includes packaged, cured, and canned fishery products and also byproducts.
[5] Includes data for 1933 on packaged and canned products and byproducts.

NOTE.—Of the total number of persons engaged in the preparation of fishermen's manufactured products, 4,029 have also been included as fishermen and 866 of the persons shown on transporting craft have also been included as fishermen.

MANUFACTURED FISHERY PRODUCTS

Statistics of the output of the various manufactured fishery products have been collected in considerable more detail for 1930, 1931, and 1933 than in previous years. In addition to statistics of the production of cured fishery products, canned fishery products, and fishery byproducts, data also have been collected on the output of packaged fishery products, including shucked oysters, fresh-cooked crab meat, and similar commodities, in the more recent surveys.

Since only a part of the United States was surveyed for general fishery statistics for 1933, the following compilation of manufactured fishery products consists of composite data based on the most recent statistics. The years covered by the data are indicated by footnotes.

Manufactured fishery products of the United States and Alaska [1]

Item	Quantity	Value
Alewives:		
Salted:		
Corned [2] ---- pounds	3,821,100	$59,522
Tight-pack cut [2] ---- do	5,553,858	130,237
Tight-pack roe [2] ---- do	395,180	13,924
Pickled [2] ---- do	[3] 2,118,700	59,537
Smoked [2] ---- do	272,435	10,425
Canned ---- standard cases	20,280	46,363
Roe, canned ---- do	28,513	111,644
Dry scrap ---- tons	612	15,777
Oil ---- gallons	30,900	3,518
Bluefish, smoked ---- pounds	250	46
Buffalofish, smoked [2] ---- do	469,700	135,855
Butterfish, smoked [2] ---- do	631,427	155,070
Cabrilla, fresh fillets ---- do	18,000	2,700
Carp, smoked [2] ---- do	173,822	53,556
Cisco, chubs, tullibee, and lake herring, smoked [2] ---- do	6,601,825	1,403,953
Cod:		
Fresh fillets ---- do	7,316,708	847,413
Frozen fillets ---- do	3,971,227	344,676
Fresh steaks and sticks ---- do	288,778	49,434
Salted:		
Green ---- do	[3] 6,927,287	231,678
Dry ---- do	1,446,514	84,064
Boneless, including absolutely boneless ---- do	9,517,111	1,645,689
Stockfish ---- do	31,220	3,085
Smoked fillets ---- do	1,128,228	167,659
Other smoked ---- do	10,400	1,116
Oil:		
Cod ---- gallons	45,331	22,152
Cod liver ---- do	19,552	14,708
Croaker, fresh fillets ---- pounds	30,500	3,720
Cusk:		
Fresh fillets ---- do	321,566	40,144
Fresh steaks and sticks ---- do	140,177	25,387
Salted:		
Green ---- do	[3] 61,650	1,288
Dry ---- do	33,972	1,593
Boneless, including absolutely boneless ---- do	28,835	3,469
Smoked fillets ---- do	195,863	25,334
Eels:		
Smoked [2] ---- do	115,504	31,678
Pickled ---- do	48	14
Flounders:		
Fresh fillets ---- do	3,488,222	532,812
Frozen fillets ---- do	267,524	35,539
Smoked fillets [2] ---- do	5,331	1,072
Groupers, fresh steaks and fillets ---- do	261,800	27,287
Haddock:		
Fresh fillets ---- do	16,693,543	1,986,554
Frozen fillets ---- do	18,386,191	1,457,883
Fresh sticks ---- do	69,168	12,559

[1] Data are for 1933 unless otherwise indicated.
[2] This item represents a combination of 1933 data in sections where available, and 1931 data in other sections.
[3] This is usually an intermediate product and although included in the total, may also be shown in its final stage of processing elsewhere in the table.

Manufactured fishery products of the United States and Alaska—Continued

Item	Quantity	Value
Haddock—Continued.		
Salted:		
Green—pounds	[3] 45, 765	$1, 091
Dry—do	52, 032	2, 550
Boneless, including absolutely boneless—do	98, 295	19, 220
Smoked fillets—do	149, 214	26, 928
Finnan haddie—do	1, 171, 354	134, 818
Canned finnan haddie—standard cases	329	3, 505
Hake:		
Fresh fillets—pounds	1, 386, 900	125, 891
Frozen fillets—do	28, 821	2, 361
Fresh sticks—do	200, 630	29, 454
Salted:		
Green—do	[3] 408, 653	11, 195
Dry—do	277, 670	8, 896
Boneless, including absolutely boneless—do	581, 201	47, 851
Smoked fillets—do	33, 282	4, 586
Halibut:		
Fresh fillets—do	109, 484	23, 408
Frozen fillets—do	17, 480	3, 012
Herring, lake, salted [4]—do	4, 252, 250	102, 925
Herring, sea:		
Salted—do	68, 400	1, 790
Roused—do	509, 790	17, 474
Spiced—do	189, 758	10, 120
Pickled [2]—do	3, 256, 200	59, 244
Scotch-cure—do	12, 651, 328	586, 331
Norwegian-cure—do	290, 950	14, 019
Dry-salted—do	54, 200	2, 020
Smoked:		
Bloaters, hard—do	948, 642	45, 853
Bloaters, soft—do	886, 994	64, 636
Bloaters, unclassified—do	121, 620	12, 971
Boneless—do	1, 953, 365	187, 020
Lengthwise—do	114, 915	9, 456
Medium-scale—do	171, 870	14, 597
Kippered—do	239, 855	29, 139
Miscellaneous—do	3, 850	231
Canned "sardines"—standard cases	980, 906	2, 397, 348
Pearl essence—pounds	7, 521	74, 210
Meal—tons	11, 913	374, 123
Oil—gallons	3, 174, 212	402, 157
Lake trout:		
Fresh fillets—pounds	12, 005	2, 676
Smoked [2]—do	429, 630	102, 196
"Lingcod" fresh fillets—do	157, 475	20, 220
Mackerel:		
Fresh fillets—do	46, 065	7, 593
Salted:		
Fillets—do	1, 767, 946	133, 266
Split—do	1, 396, 180	95, 396
Miscellaneous—do	1, 225	86
Smoked [2]—do	175, 631	28, 368
Canned—standard cases	748, 567	1, 867, 915
Meal—tons	1, 278	35, 554
Oil—gallons	83, 778	10, 302
Menhaden:		
Acid scrap—tons	9, 481	173, 280
Dry scrap—do	25, 068	767, 878
Meal—do	6, 385	194, 734
Oil—gallons	3, 344, 343	450, 970
Mullet:		
Salted [4]—pounds	1, 191, 362	48, 102
Roe, salted [4]—do	74, 704	17, 350
Paddlefish:		
Smoked [2]—do	373, 800	166, 760
Roe, salted [4]—do	1, 595	812
Pike:		
Fresh fillets—do	2, 744, 585	547, 646
Frozen fillets—do	330, 888	63, 207
Pilchard:		
Salted—do	73, 400	4, 454
Canned "sardines"—standard cases	1, 539, 446	3, 805, 168
Meal—tons	50, 581	1, 530, 218
Flour—do	384	11, 334
Oil—gallons	10, 263, 776	1, 593, 088

[2] This item represents a combination of 1933 data in sections where available, and 1931 data in other sections.

[3] This is usually an intermediate product and although included in the total, may also be shown in its final stage of processing elsewhere in the table.

[4] Data are for 1931.

Manufactured fishery products of the United States and Alaska—Continued

Item	Quantity	Value
Pollock:		
Fresh fillets and steaks—pounds	443,631	$37,479
Frozen fillets—do	1,091,401	65,147
Salted:		
Green—do	114,145	2,275
Dry—do	983,829	39,119
Rockfishes, fresh fillets—do	881,800	132,002
Sablefish:		
Fresh fillets—do	113,000	12,760
Salted—do	144,700	9,055
Kippered—do	290,022	40,854
Smoked [2]—do	116,030	29,426
Salmon:		
Salted:		
Dry—do	1,399,532	55,281
Pickled in brine—do	1,034,950	73,920
Mild-cured—do	[3] 10,494,446	1,891,676
Miscellaneous—do	15,158	1,584
Smoked [2]—do	8,228,954	2,256,091
Kippered—do	1,662,561	333,912
Canned:		
Chinook or king—standard cases	322,448	3,071,445
Blueback, red or sockeye—do	2,320,866	16,379,350
Silver or coho—do	243,310	1,382,076
Humpback or pink—do	2,722,723	12,235,661
Chum or keta—do	735,568	3,612,159
Steelhead trout—do	17,550	161,226
Meal—tons	1,657	50,477
Oil—gallons	187,801	29,761
Eggs, for bait, canned—standard cases	3,273	93,145
Sea bass (Pacific coast):		
Black, fresh fillets—pounds	260,000	28,600
White, fresh fillets—do	147,000	23,900
Shad:		
Smoked and kippered [2]—do	242,109	47,745
Canned—standard cases	1,148	3,837
Roe, canned—do	1,108	24,823
Sheepshead:		
Fresh fillets—pounds	37,502	4,399
Smoked [4]—do	617	77
Snapper, red:		
Fresh fillets—do	25,400	4,500
Fresh steaks—do	18,600	3,520
Spanish mackerel, fresh fillets—do	2,700	535
Spot, salted [4]—do	63,500	2,601
Squeteagues:		
Fresh fillets—do	80,500	10,638
Sun-dried [4]—do	33,148	6,166
Squirrel hake, smoked—do	50	5
Sturgeon:		
Smoked and kippered—do	1,529,342	785,970
Salted roe—do	564	381
Caviar, canned—standard cases	2,596	333,530
Trout (Dolly Varden), dried—pounds	1,500	30
Tuna:		
Canned:		
Albacore—standard cases	54,097	286,301
Bluefin—do	4,179	21,519
Bonito—do	42,439	170,178
Striped—do	225,461	1,022,819
"Tonno"—do	136,740	852,236
Yellowfin—do	936,299	4,417,676
Yellowtail—do	43,918	163,756
Meal—tons	6,004	153,300
White bass, fresh fillets—pounds	50,873	10,050
Whitefish:		
Fresh fillets—do	13,988	3,020
Smoked [2]—do	2,461,295	647,338
Caviar, canned—standard cases	854	29,754
Whiting, smoked—pounds	50	5
Wolffish, fresh fillets—do	85,439	6,262
Yellow perch:		
Fresh fillets—do	760,113	155,432
Frozen fillets—do	87,721	16,854
Crabs:		
Meat, packaged, fresh-cooked [2]—do	6,863,844	1,662,497
Canned—standard cases	9,272	143,517
Meal—tons	800	11,000
Dry scrap—do	550	9,412

[2] This item represents a combination of 1933 data in sections where available, and 1931 data in other sections.

[3] This is usually an intermediate product and although included in the total, may also be shown in its final stage of processing elsewhere in the table.

[4] Data are for 1931.

Manufactured fishery products of the United States and Alaska—Continued

Item	Quantity	Value
Crabs, king, meal and dry scrap—tons	572	$17,005
Lobsters, meat, packaged, fresh-cooked—pounds	79,020	86,420
Shrimp:		
Fresh and frozen, packaged [2]—do	2,403,962	397,004
Sun-dried [2]—do	1,469,152	321,857
Cooked and peeled [2]—do	779,050	153,388
Canned—standard cases	860,462	3,479,477
Meal or "bran"—tons	1,179	24,540
Abalone, steaks—pounds	531,698	143,262
Clams, hard:		
Fresh-shucked [2]—gallons	13,932	22,197
Canned:		
Whole—standard cases	32,704	82,044
Chowder—do	169,613	621,421
Minced—do	13,058	68,324
Broth, bouillon, and cocktail—do	4,503	25,485
Juice—do	7,327	28,938
Clams, razor:		
Fresh-shucked—gallons	36,078	17,729
Canned:		
Whole and juice—standard cases	2,214	17,061
Minced—do	62,010	498,472
Clams, soft:		
Fresh-shucked—gallons	129,286	120,024
Steamed—pounds	[3] 161,887	11,279
Canned:		
Whole—standard cases	76,698	248,190
Chowder—do	46,732	131,314
Juice and bouillon—do	19,441	44,157
Clams, surf, fresh-shucked—gallons	5,922	4,050
Clam shells, ground, poultry feed—tons	1,630	15,340
Marine-shell products:		
Buttons—gross	5,486,180	3,299,907
Novelties		463,093
Mussels, fresh-water, shell products:		
Buttons—gross	18,714,008	4,232,036
Novelties		153,760
Lime—tons	3,083	8,920
Poultry feed—do	8,312	63,645
Oysters:		
Eastern:		
Fresh-shucked [2]—gallons	5,535,219	6,697,956
Canned—standard cases	317,630	927,128
Japanese:		
Fresh-shucked—gallons	151,384	166,361
Canned—standard cases	30,500	149,190
Native, Pacific, fresh-shucked—gallons	26,575	139,884
Shell products:		
Poultry feed—tons	276,342	1,480,398
Lime—do	45,660	104,524
Lime, "burned"—do	3,314	22,948
Scallops, bay, fresh-shucked [2]—gallons	126,162	306,921
Scallops, sea, fresh-shucked—do	381,650	397,733
Turtles and terrapin, meat and soup, canned—standard cases	2,607	42,008
Whales:		
Meal, bone—tons	207	4,453
Meal, meat—do	310	9,320
Oil, whale—gallons	569,850	93,341
Oil, sperm—do	16,200	2,900
Unclassified products:		
Fillets, fresh—pounds	[5] 526,400	84,909
Fillets, frozen—do	[6] 183,299	21,271
Miscellaneous, packaged, fresh and frozen [2]—do	[7] 1,637,453	154,533
Salted [2]—do	[8] 424,026	35,947
Smoked [2]—do	[9] 43,407	10,561
Canned:		
Fish for cat and dog food—standard cases	213,811	588,090
Fish cakes, balls, etc—do	65,100	444,236

[2] This item represents a combination of 1833 data in sections where available, and 1931 data in other sections.

[3] This is usually an intermediate product and although included in the total, may also be shown in its fiual stage of processing elsewhere in the table.

[5] Includes fresh fillets of barracuda, bluefish, grayfish, kingfish, lake herring, mullet, red drum, snook, and totuava.

[6] Includes frozen fillets of cusk, mackerel, red snapper, rosefish, salmon, sheepshead, Spanish mackerel, squeteagues, white bass, and wolffish.

[7] Includes fresh alewife roe, fresh-shucked conchs, pan-dressed flounders, fresh and frozen swordfish steaks, and frozen whiting sticks.

[8] Includes salted anchovies, barracuda, bluefish, bonito, halibut, lake trout, black and white sea bass, Spanish mackerel, yellowtail, and tongues; spiced alewives; and mild-cured shad.

[9] Includes smoked goosefish, halibut, salmon and shad weiners, suckers, and spiced salmon.

Manufactured fishery products of the United States and Alaska—Continued

Item	Quantity	Value
Unclassified products—Continued.		
Fish flakes, standard cases	20,076	$155,424
Other, do	[10] 30,592	212,053
Dry and green scrap, tons	[11] 3,167	58,926
Meal, do	[12] 9,843	435,965
Oil, gallons	[13] 6,479	1,622
Glue, do	355,949	704,101
Other byproducts		[14] 341,289
Total, fresh and frozen packaged products [2], pounds	129,608,348	17,294,092
Total, cured products [2], do	104,310,213	12,823,491
Total, canned, do	533,212,154	59,799,963
Total, byproducts		17,465,986
Grand total		107,383,532

[2] This item represents a combination of 1933 data in sections where available, and 1931 data in other sections.

[10] Includes canned anchovies, pickled eels, groundfish roe, haddock chowder, smoked lingcod, mackerel stew, salmon caviar, kippered salmon cheeks and steelhead trout, smoked sturgeon, conch cocktail, coquina broth, oyster puree, oyster soup, pickled sea mussels, rat poison, sea cucumber, squid, and miscellaneous canned fish.

[11] Includes scrap from sea herring, ground fish, and mixed fish.

[12] Includes meal from ground fish, salmon eggs, clams, and mixed fish.

[13] Includes shark and miscellaneous fish oil.

[14] Includes agar agar, alligator hides, concentrated powdered fish meat, isinglass, kelp products, mussel-shell stucco and chips, shark fins and hides, and miscellaneous novelties.

NOTE.—Some of the above products may have been manufactured from products imported from another country; therefore, they cannot be correlated directly with the catch within the United States and Alaska.

CANNED FISHERY PRODUCTS AND BYPRODUCTS TRADE

The output of canned fishery products and byproducts in the United States and Alaska in 1933 was valued at $77,258,318. Of this total, canned products comprised $59,799,963, and byproducts, $17,458,355, an increase of 37 percent in the value of canned products and 40 percent in the value of byproducts when compared with the respective values of the same groups of commodities for the previous year.

Fishery products were canned at 384 establishments in the United States and Alaska during 1933. The combined output of these canneries amounted to 13,116,968 standard cases. The net weight of the products canned amounted to 533,212,154 pounds.

Canned fishery products or byproducts were prepared in 26 States and in Alaska during 1933. Alaska ranked first in the value of the products, accounting for 38 percent of the total; and California ranked second with 22 percent.

Canned fishery products and byproducts of the United States and Alaska, 1933

SUMMARY OF PRODUCTION: BY COMMODITIES

Product	Number of plants	Standard cases	Quantity	Value
			Pounds	
Canned products:				
Salmon:				
United States	43	1,136,861	54,569,328	$7,865,903
Alaska	91	5,225,604	250,828,992	28,376,014
Sardines:				
Maine	23	980,906	24,522,650	2,397,348
California	19	1,539,446	73,893,408	3,805,168
Tuna and tunalike fishes	13	1,443,133	34,635,192	6,934,485
Alewives	11	20,280	973,440	46,363
Alewife roe	26	28,513	1,368,624	111,644
Shad	4	1,148	55,104	3,837
Shad roe	9	1,108	53,184	24,823
Mackerel	14	748,567	35,931,216	1,867,915
Fish flakes	4	20,076	963,648	155,424
Fish cakes, balls, etc	7	65,100	3,124,800	444,236

Canned fishery products and byproducts of the United States and Alaska, 1933—Con.

SUMMARY OF PRODUCTION: By COMMODITIES—Continued

Product	Number of plants	Standard cases	Quantity	Value
Canned products—Continued.			*Pounds*	
Cat and dog food	6	213,811	10,262,928	$588,090
Sturgeon caviar	4	2,596	124,608	333,530
Whitefish roe and caviar	4	854	40,992	29,754
Salmon eggs (for bait)	8	3,273	157,104	93,145
Miscellaneous fish, roe, and caviar	17	12,110	581,280	85,729
Oysters	40	348,130	5,221,950	1,076,318
Shrimp	58	860,462	24,201,126	3,479,477
Clam products	65	434,500	[1] 10,239,060	1,766,406
Crabs	10	9,272	445,056	143,517
Turtle and terrapin products	5	2,607	125,136	42,008
Miscellaneous shellfish	6	18,611	893,328	128,829
Total	[2] 384	13,116,968	533,212,154	59,799,963
Byproducts:			*Tons*	
Oyster-shell products			326,946	1,623,210
Fresh-water mussel-shell products				4,493,111
Marine pearl-shell products				3,763,000
Scrap, meal, etc.			129,991	3,877,296
			Gallons	
Marine animal oils			17,742,222	2,624,519
Miscellaneous byproducts				1,077,219
Total				17,458,355
Grand total				77,258,318

[1] "Cutout" or "drained" weights of can contents are included for whole and minced clams, and gross can contents for other clam products.
[2] Exclusive of duplication.

VALUE OF PRODUCTION: By STATES

State	Canned products	Byproducts [3]	Total
Maine	$2,941,678	$246,713	$3,188,391
Massachusetts	791,864	1,261,165	2,062,752
Rhode Island		9,723	
Connecticut		719,213	719,213
New York	843,803	1,532,536	4,466,269
New Jersey		1,416,759	
Pennsylvania		673,171	
Delaware		202,531	202,531
Maryland	121,568	654,776	776,344
Virginia	91,765	867,039	958,804
North Carolina and South Carolina	363,176	239,542	602,718
Georgia	515,903	675,053	1,658,854
Florida	467,898		
Alabama	329,911	62,450	1,366,654
Mississippi	974,293		
Louisiana	1,572,942	622,403	2,195,345
Texas and Wisconsin	317,486	4,659	322,145
Missouri, Illinois, and Kentucky		112,808	112,808
Iowa		3,364,028	3,364,028
Washington	5,801,293	75,678	5,876,971
Oregon	2,674,923	16,240	2,691,163
California	13,231,561	3,868,736	17,100,297
Alaska	28,759,899	833,132	29,593,031
Total	59,799,963	17,458,355	77,258,318

[3] Includes menhaden, fresh-water mussel-shell, and marine-pearl shell products.

Canned fishery products and byproducts of the United States and Alaska, 1933—Con.

PACK OF CANNED SALMON: STANDARD CASES

Product	Alaska							
	Southeast		Central		Western		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
Chinook or king:								
1-pound tall	3,873	$21,111	12,578	$69,964	4,986	$28,929	21,437	$120,004
1-pound flat	3,189	27,608	3,811	31,032	3,021	28,480	10,021	87,120
½-pound flat	1,084	9,676	7,397	79,637	1,474	14,745	9,955	104,058
Total	8,146	58,395	23,786	180,633	9,481	72,154	41,413	311,182
Blueback, red or sockeye:								
1-pound tall	64,467	421,349	389,169	2,532,373	1,612,957	10,711,792	2,066,593	13,665,514
1-pound flat	3,832	30,656	54,651	411,717	1,569	10,277	60,052	452,650
½-pound flat	12,827	121,842	40,664	392,209	147	1,073	53,638	515,124
Total	81,126	573,847	484,484	3,336,299	1,614,673	10,723,142	2,180,283	14,633,288
Silver or coho:								
1-pound tall	90,737	472,569	62,351	313,521	1,456	7,517	154,544	793,607
1-pound flat	2,096	12,576	2,561	14,133	----------	----------	4,657	26,709
½-pound flat	2,972	22,335	395	2,368	----------	----------	3,367	24,703
Total	95,805	507,480	65,307	330,022	1,456	7,517	162,568	845,019
Humpback or pink:								
1-pound tall	1,467,473	6,664,922	700,221	3,116,508	----------	----------	2,167,694	9,781,430
½-pound flat	10,540	64,660	4,317	27,629	----------	----------	14,857	92,289
Total	1,478,013	6,729,582	704,538	3,144,137	----------	----------	2,182,551	9,873,719
Chum or keta:								
1-pound tall	424,611	1,728,120	207,471	865,780	26,049	115,254	658,131	2,709,154
½-pound flat	250	1,365	408	2,287	----------	----------	658	3,652
Total	424,861	1,729,485	207,879	868,067	26,049	115,254	658,789	2,712,806
Grand total	2,087,951	9,598,789	1,485,994	7,859,158	1,651,659	10,918,067	5,225,604	28,376,014

Product	United States						Grand total, Alaska and United States	
	Washington		Oregon and California		Total			
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
Chinook or king:								
1-pound tall	15,597	$69,727	34,210	$142,644	49,807	$212,371	71,244	$332,375
1-pound oval	210	3,728	697	12,372	907	16,100	907	16,100
1-pound flat	8,502	67,451	39,181	332,854	47,683	400,305	57,704	487,425
½-pound oval	----------	----------	106	2,672	106	2,672	106	2,672
½-pound flat	50,258	536,300	128,259	1,529,797	178,517	2,066,097	188,472	2,170,155
¼-pound flat	----------	----------	4,015	62,718	4,015	62,718	4,015	62,718
Total	74,567	677,206	206,468	2,083,057	281,035	2,760,263	322,448	3,071,445
Blueback, red or sockeye:								
1-pound tall	2,473	21,954	----------	----------	2,473	21,954	2,069,066	13,687,468
1-pound flat	24,800	285,200	----------	----------	24,800	285,200	84,852	737,850
½-pound flat	106,807	1,350,899	6,238	83,901	113,045	1,434,800	166,683	1,949,924
¼-pound flat	----------	----------	265	4,108	265	4,108	265	4,108
Total	134,080	1,658,053	6,503	88,009	140,583	1,746,062	2,320,866	16,379,350
Silver or coho:								
1-pound tall	17,817	89,477	4,227	21,135	22,044	110,612	176,588	904,219
1-pound flat	10,704	59,942	9,146	51,218	19,850	111,160	24,507	137,869
½-pound flat	17,809	139,801	15,077	118,354	32,886	258,155	36,253	282,858
¼-pound flat	495	4,811	5,467	52,319	5,962	57,130	5,962	57,130
Total	46,825	294,031	33,917	243,026	80,742	537,057	243,310	1,382,076
Humpback or pink:								
1-pound tall	505,380	2,173,134	----------	----------	505,380	2,173,134	2,673,074	11,954,564
1-pound flat	15,109	70,710	----------	----------	15,109	70,710	15,109	70,710
½-pound flat	19,683	118,098	----------	----------	19,683	118,098	34,540	210,387
Total	540,172	2,361,942	----------	----------	540,172	2,361,942	2,722,723	12,235,661

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Product	United States						Grand total, Alaska and United States	
	Washingnon		Oregon and California		Total			
Chum or keta:	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
1-pound tall	46, 508	$181, 593	26, 191	$98, 272	72, 699	$279, 865	730, 830	$2, 989, 019
1-pound flat	1, 773	7, 535	444	1, 820	2, 217	9, 355	2, 217	9, 355
½-pound flat	1, 498	8, 089	365	2, 044	1, 863	10, 133	2, 521	13, 785
Total	49, 779	197, 217	27, 000	102, 136	76, 779	299, 353	735, 568	3, 012, 159
Steelhead:								
1-pound tall	375	1, 561	2, 008	8, 233	2, 383	9, 794	2, 383	9, 794
1-pound flat	996	6, 523	1, 143	7, 487	2, 139	14, 010	2, 139	14, 010
½-pound oval	389	5, 018	3, 924	50, 620	4, 313	55, 638	4, 313	55, 638
½-pound flat	1, 721	15, 803	5, 926	55, 408	7, 647	71, 211	7, 647	71, 211
¼-pound flat			1, 068	10, 573	1, 068	10, 573	1, 068	10, 573
Total	3, 481	28, 905	14, 069	132, 321	17, 550	161, 226	17, 550	161, 226
Grand total	848, 904	5, 217, 354	287, 957	2, 648, 549	1, 136, 861	7, 865, 903	6, 362, 465	36, 241, 917

NOTE.—"Standard cases" represent the various-sized cases converted to the equivalent of forty-eight 1-pound cans to the case. Salmon were canned at 31 plants in Washington, 11 in Oregon, 1 in California, and 91 in Alaska.

PACK OF CANNED SARDINES

Sardines (herring)	Maine		Sardines (pilchard)	California	
Quarters, ¼-pound (100 cans):	*Cases*	*Value*	1-pound oval (48 cans):	*Cases*	*Value*
In cottonseed oil	[4] 821, 388	$2, 000, 218	In cottonseed oil	13, 871	$32, 810
In mustard	89, 061	252, 237	In mustard	128, 128	311, 960
In other sauces or oils	7, 786	29, 673	In tomato sauce	1, 160, 029	2, 819, 755
Three-quarters, ¾-pound (48 cans):			In natural oil	21, 991	50, 652
In mustard	43, 522	115, 220	In other sauces or oils	8, 579	21, 237
			½-pound oval (48 cans):		
			In various sauces or oils	4, 604	13, 571
			1-pound tall (48 cans):		
			In natural oil	105, 087	227, 456
			In other sauces or oils	20, 403	49, 255
			6-ounce (100 cans):		
			In tomato sauce	4, 247	10, 251
			In natural oil	83, 183	201, 640
			In other sauces or oils	4, 576	11, 843
			Other sizes:		
			In various sauces or oils (standard cases)	7, 176	54, 738
Total	961, 757	2, 397, 348	Total	1, 561, 874	3, 805, 168
Total (standard cases)	980, 906		Total (standard cases)	1, 539, 446	

[4] Includes a small amount packed in 6-ounce cans, 100 to the case, which have been converted to the basis of 4-ounce cans, 100 to the case.

NOTE.—"Standard cases" represent the various sized cases converted to the uniform basis of one hundred ¼-pound cans to the case of sardines (herring), and forty-eight 1-pound cans to the case of sardines (pilchard). Sardines were canned at 23 plants in Maine and 19 in California.

PACK OF CANNED TUNA AND TUNALIKE FISHES IN CALIFORNIA [5]

Size	Albacore		Yellowfin [6]		Bluefin		Striped	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
¼-pound (48 cans)	1, 242	$4, 667	112, 982	$380, 829	1, 345	$5, 320	18, 687	$60, 107
½-pound (48 cans)	41, 404	227, 023	643, 373	3, 071, 470	2, 539	12, 063	187, 963	852, 653
1-pound (48 cans)	[7] 4, 257	[7] 39, 713	[7] 69, 383	[7] 592, 069	244	2, 122	10, 040	81, 023
Flakes (standard cases)	3, 558	14, 898	97, 669	373, 308	480	2, 014	8, 074	29, 036
Total	50, 461	286, 301	923, 407	4, 417, 676	4, 608	21, 519	224, 764	1, 022, 819
Total (standard cases)	54, 097		936, 299		4, 179		225, 461	

[5] Includes a very small amount of tuna packed in Oregon which has been included with albacore in ½-pound cans, 48 to the case.

[6] Includes a small amount of creamed yellowfin tuna.

[7] Includes the pack in 4-pound cans, 12 to the case, which have been converted to the equivalent of 1-pound cans, 48 to the case.

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PACK OF CANNED TUNA AND TUNALIKE FISHES IN CALIFORNIA—Continued

Size	"Tonno"		Bonito		Yellowtail		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
¼-pound (48 cans)			21	$63			134, 277	$450, 986
¼-pound (100 cans)	119, 620	$775, 423	4, 247	23, 867			123, 867	799, 290
½-pound (48 cans)	12, 143	76, 813	[8] 28, 764	[8] 114, 751	23, 088	$91, 425	939, 274	4, 446, 198
1-pound (48 cans)			4, 620	31, 497	10, 415	72, 331	98, 959	818, 755
Flakes (standard cases)			([8])	([8])			109, 781	419, 256
Total	131, 763	852, 236	37, 652	170, 178	33, 503	163, 756	1, 406, 158	6, 934, 485
Total (standard cases)	136, 740		42, 439		43, 918		1, 443, 133	

[8] A small amount of bonito flakes is included with canned bonito in ½-pound cans, 48 to the case.

NOTE.—"Standard cases" represent the various sized cases converted to the equivalent of forty-eight ½-pound cans to the case. Tuna and tunalike fishes were canned at 12 plants in California and 1 in Oregon.

PACK OF CANNED ALEWIVES AND ALEWIFE ROE: STANDARD CASES

Product	Maryland		Virginia and North Carolina		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*
Alewives	16, 575	$36, 500	3, 705	$9, 863	20, 280	$46, 363
Alewife roe	7, 336	29, 390	21, 177	82, 254	28, 513	111, 644
Total	23, 911	65, 890	24, 882	92, 117	48, 793	158, 007

PACK OF CANNED ALEWIVES AND ALEWIFE ROE: ACTUAL CASES

Product and size	Cases	Value	Product and size	Cases	Value
Alewives:			Alewife roe—Continued.		
16-ounce (48 cans)	14, 678	$34, 831	10-, 16-, and 19-ounce (24 cans)	4, 988	$9, 061
16-, 17-, and 19-ounce (24 cans)	10, 111	11, 532	17-ounce (24 cans)	43, 486	85, 974
Total		46, 363	Total		111, 644
Alewife roe:			Grand total		158, 007
8-ounce (48 cans)	4, 851	13, 583			
7½, 8½, and 10-ounce (48 cans)	875	3, 026			

NOTE.—"Standard cases" represent the various sized cases converted to the equivalent of forty-eight 1-pound cans to the case. Alewives or alewife roe were canned at 7 plants in Maryland, 17 in Virginia, and 2 in North Carolina.

PACK OF CANNED SHRIMP: STANDARD CASES

State	Dry pack (in tins)		Wet pack (in tins)		Wet pack (in glass)		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
South Carolina and Alabama	21, 813	$91, 358	71, 883	$291, 073			93, 696	$382, 431
Georgia	10, 675	33, 105	86, 813	344, 285	[9] 24, 114	[9] $158, 875	121, 602	536, 265
Florida	3, 579	12, 357	65, 179	205, 658	17, 255	125, 194	86, 013	343, 209
Mississippi	38, 690	144, 759	81, 182	302, 313			119, 872	447, 072
Louisiana	108, 932	456, 833	263, 823	1, 044, 243	([9])	([9])	372, 755	1, 501, 076
Texas	22, 037	89, 676	44, 487	179, 748	([9])	([9])	66, 524	269, 424
Total	205, 726	828, 088	613, 367	2, 367, 320	41, 369	284, 069	860, 462	3, 479, 477

[9] The pack of shrimp in glass for Louisiana and Texas has been included with that of Georgia to avoid disclosure of private enterprise.

PACK OF CANNED SHRIMP: ACTUAL CASES

Size	Cases	Value	Size	Cases	Value
In tins, dry:			In glass, wet:		
4-ounce (48 cans)	1, 111	$3, 393	4-ounce (24 jars)	2, 140	$13, 607
5-ounce (48 cans)	180, 930	719, 132	6-ounce (24 jars)	46, 900	158, 834
8¼-ounce (24 cans)	26, 310	102, 425	Other sizes (standard cases)	16, 157	111, 628
Other sizes (standard cases)	2, 202	3, 138	Total		3, 479, 477
In tins, wet:					
5¾-ounce (48 cans)	610, 592	2, 353, 476			
9¾-ounce (24 cans)	2, 478	9, 506			
Other sizes (standard cases)	674	4, 338			

NOTE.—"Standard cases" represent the various sized cases converted to the equivalent of forty-eight 5-ounce cans to the case in the dry pack and forty-eight 5¾-ounce cans to the case in the wet pack. Shrimp were canned at 1 plant in South Carolina, 6 in Georgia, 7 in Florida, 3 in Alabama, 15 in Mississippi, 21 in Louisiana, and 5 in Texas.

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PACK OF CANNED OYSTERS: STANDARD CASES

State	Cases	Value	State	Cases	Value
South Carolina	93, 082	$274, 674	Louisiana	19, 439	$60, 164
Georgia, Florida, Alabama, and New Jersey	21, 982	65, 069	Washington	30, 500	149, 190
Mississippi	183, 127	527, 221	Total	348, 130	1, 076, 318

PACK OF CANNED OYSTERS: ACTUAL CASES

Size	Cases	Value	Size	Cases	Value
4-ounce (48 cans)	24, 150	$69, 971	10-ounce (24 cans)	38, 758	$103, 731
5-ounce (48 cans)	252, 588	744, 211	Other sizes (standard cases)	2, 993	12, 880
7½-ounce (48 cans)	14, 086	103, 389			
8-ounce (24 cans)	16, 675	42, 136	Total		1, 076, 318

NOTE.—"Standard cases" represent the various sized cases converted to the equivalent of forty-eight 5-ounce cans to the case. Oysters were canned at 1 plant in New Jersey, 4 in South Carolina, 2 in Georgia, 2 in Florida, 2 in Alabama, 15 in Mississippi, 5 in Louisiana, and 9 in Washington.

PACK OF CANNED CLAMS AND CLAM PRODUCTS

Item and State	Cases	Value
Razor clams (Washington, Oregon, and Alaska):		
Whole:		
½-pound, 4-ounce (48 cans)	116	$540
No. 1, 5-ounce (48 cans)	1, 309	12, 731
1-pound, 8-ounce (48 cans)	299	2, 410
Other sizes (standard cases)	46	382
Minced:		
½-pound, 4-ounce (48 cans)	52, 903	347, 267
No. 1, 5-ounce (48 cans)	19, 278	148, 292
No. 2, 10-ounce (24 cans)	370	2, 713
Other sizes (standard cases)	40	200
Juice:		
All sizes (standard cases)	288	998
Total	74, 649	515, 533
Total (standard cases)	64, 224	
Hard clams (Rhode Island, New York, New Jersey, Pennsylvania, Maryland, Florida, Washington, and Alaska): [10]		
Whole:		
No. 1, 5-ounce (48 cans)	1, 598	11, 081
1-pound, 8-ounce (48 cans)	1, 512	9, 292
No. 2, 10-ounce (24 cans)	3, 293	18, 504
No. 10, 52-ounce (6 cans)	3, 864	16, 422
Other sizes (standard cases)	20, 371	26, 745
Minced:		
½-pound, 4-ounce (48 cans)	6, 167	20, 043
No. 1, 5-ounce (48 cans)	1, 969	9, 386
Other sizes (standard cases)	6, 155	38, 895
Chowder:		
No. 1, 10-ounce (48 cans)	114, 468	378, 931
33-ounce (12 cans)	20, 330	74, 077
No. 10, 102-ounce (6 cans)	2, 052	12, 521
Other sizes (standard cases)	35, 756	155, 892
Hard clams—Continued.		
Juice:		
No. 1, 10-ounce (48 cans)	971	$3, 581
No. 10, 102-ounce (6 cans)	1, 990	5, 450
Other sizes (standard cases)	3, 818	19, 907
Cocktail: All sizes (standard cases)	1, 167	6, 498
Broth and bouillon:		
All sizes (standard cases)	3, 536	19, 987
Total	229, 017	827, 212
Total (standard cases)	227, 405	
Soft clams (Maine and Massachusetts):		
Whole:		
No. 1, 5-ounce (48 cans)	55, 986	183, 907
1-pound, 8-ounce (48 cans)	5, 324	22, 562
No. 2, 10-ounce (24 cans)	8, 998	28, 517
Other sizes (standard cases)	3, 196	13, 204
Chowder:		
No. 1, 10-ounce (48 cans)	16, 563	51, 542
Other sizes (standard cases)	30, 169	79, 772
Bouillon and juice:		
No. 1, 10-ounce (48 cans)	4, 867	14, 519
No. 2, 20-ounce (24 cans)	10, 077	21, 568
No. 10, 102-ounce (6 cans)	1, 351	2, 977
Other sizes (standard cases)	2, 137	5, 093
Total	139, 168	423, 661
Total (standard cases)	142, 871	
Grand total (standard cases)	434, 500	1, 766, 406

[10] Includes a small amount of coquina broth packed in Florida.

NOTE.—"Standard cases" represent the various sized cases converted to the equivalent of 48 no. 1, 5-ounce cans to the case for whole and minced clams; and 48 no. 1, 10-ounce cans to the case for other clam products. Razor-clam products were canned at 10 plants in Washington, 4 in Oregon, and 14 in Alaska; hard-clam products, at 1 plant in Rhode Island, 2 in New York, 2 in New Jersey, 1 in Pennsylvania, 2 in Maryland, 1 in Florida, 6 in Washington, and 1 in Alaska; soft clam products, at 18 plants in Maine and 2 in Massachusetts; and coquina clam products, at 1 plant in Florida.

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PACK OF MISCELLANEOUS CANNED FISHERY PRODUCTS: STANDARD CASES

Item	Cases	Value	Item	Cases	Value
Mackerel	748,567	$1,867,915	Salmon eggs (for bait)	3,273	$93,145
Shad	1,148	3,837	Miscellaneous fish, roe and caviar [13]	12,110	85,729
Shad roe	1,108	24,823	Crabs	9,272	143,517
Fish flakes [11]	20,076	155,424	Turtle and terrapin products	2,607	42,008
Cat and dog food	213,811	583,090	Miscellaneous shellfish [14]	18,611	128,829
Fish cakes, balls, etc	65,100	444,236			
Sturgeon caviar [12]	2,596	333,530			
Whitefish roe and caviar	854	29,754	Total	1,099,133	3,940,837

[11] Tuna flakes are not included in this table, but are included in the table for canned tuna and tunalike fishes.

[12] Produced principally from imported sturgeon.

[13] Includes kippered and smoked salmon, finnan haddie, haddock, chowder, pickled eels, mackerel stew, smoked lingcod and sturgeon, anchovies, salmon roe and caviar, and miscellaneous roe.

[14] Includes oyster puree and soup, pickled mussels, sea cucumbers, squid, and conch products.

PRODUCTION OF OYSTER-SHELL PRODUCTS [15]

State	Crushed oyster-shell for poultry feed		Oyster-shell lime		Total	
	Tons	*Value*	*Tons*	*Value*	*Tons*	*Value*
Rhode Island and Delaware	945	$7,517	315	$1,316	1,260	$8,833
New Jersey	4,553	44,864	1,610	6,629	6,163	51,493
Pennsylvania	3,646	33,119	1,114	4,570	4,760	37,689
Maryland	34,298	175,969	20,998	30,017	55,296	205,986
Virginia	15,537	91,940	[16] 14,890	[16] 60,543	30,427	152,483
North Carolina and South Carolina	7,100	45,300	[17] 1,850	[17] 6,287	8,950	51,587
Florida	65,383	318,715	([17])	([17])	65,383	318,715
Alabama, Louisiana, and Texas	113,154	619,173	1,638	4,014	114,792	623,187
Mississippi	14,567	46,992	2,744	1,408	17,311	48,400
Washington	2,046	19,467			2,046	19,467
California	16,743	92,682	3,815	12,688	20,558	105,370
Total	277,972	1,495,738	48,974	127,472	326,946	1,623,210

[15] Most of the production in Washington and a small part of the production in California was made from crushed clam shells.

[16] Of this amount 3,314 tons, valued at $22,948 were reported as "burned" lime.

[17] The production of oyster-shell lime in Florida has been included with that of North Carolina and South Carolina.

NOTE.—The above crushed shell products were prepared at 2 plants in Rhode Island, 9 in New Jersey, 5 in Pennsylvania, 1 in Delaware, 5 in Maryland, 10 in Virginia, 2 in North Carolina, 2 in South Carolina, 3 in Florida, 2 in Alabama, 5 in Mississippi, 1 in Louisiana, 1 in Texas, 5 in California, and 5 in Washington.

PRODUCTION OF FRESH-WATER MUSSEL-SHELL PRODUCTS

Item	Iowa		New York		Other States		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Pearl buttons, gross	13,698,445	$3,139,905	4,346,839	$959,337	668,724	$132,794	18,714,008	$4,232,036
Crushed shell for poultry feed, tons	7,575	59,639			692	4,006	8,312	63,645
Lime, do	2,524	8,274	294	466	245	180	3,083	8,920
Other products [18]		156,210				32,300		188,510
Total		3,364,028		959,803		169,280		4,493,111

[18] Includes stucco, colored shells, and "pearl novelties."

NOTE.—Mussel shells utilized in the above production amounted to 60,292,000 pounds, valued at $873,138. Shells were taken in 16 States in the Mississippi Valley and Great Lakes region. The producing States in order of their importance were: Arkansas, which contributed 23 percent of the total quantity; Indiana, 16 percent; Tennessee, 14 percent; Illinois, 11 percent; Michigan, 9 percent; Kentucky, 6 percent; Iowa, 5 percent; Wisconsin, 5 percent; Minnesota, 3 percent; Alabama and Texas each 2 percent; Missouri, Ohio, and South Dakota, each 1 percent; and Mississippi and Oklahoma each less than one-half of 1 percent.

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PRODUCTION OF MARINE PEARL-SHELL PRODUCTS [19]

Item	Maine, Massachusetts, Rhode Island, and Connecticut		New York		New Jersey	
	Gross	*Value*	*Gross*	*Value*	*Gross*	*Value*
Pearl buttons	1,199,684	$741,969	825,708	$509,920	1,617,128	$1,073,275
Novelties [20]		215,400		46,813		78,955
Total		957,369		556,733		1,152,230

Item	Pennsylvania, Maryland, and Florida		Oregon and California		Total	
	Gross	*Value*	*Gross*	*Value*	*Gross*	*Value*
Pearl buttons	1,843,660	$974,743			5,486,180	$3,299,907
Novelties [20]		101,339		$20,586		463,093
Total		1,076,082		20,586		3,763,000

[19] Produced principally from imported shells.
[20] Includes buckles, inlays for jewelry, knife handles, lamps, handles for manicure sets, ornaments, etc.

NOTE.—Marine pearl-shell products were manufactured at 1 plant in Maine, 2 in Massachusetts, 1 in Rhode Island, 6 in Connecticut, 10 in New York, 21 in New Jersey, 3 in Pennsylvania, 1 in Maryland, 3 in Florida, 2 in Oregon, and 2 in California.

FISH UTILIZED AND PRODUCTS OF THE MENHADEN INDUSTRY

State	Menhaden utilized	Products						
		Dry scrap and meal		Acidulated scrap		Oil		Total
	Number	*Tons*	*Value*	*Tons*	*Value*	*Gallons*	*Value*	*Value*
New Jersey, Delaware, Georgia and Florida	270,860,000	14,304	$419,675	5,917	$116,547	1,554,482	$196,846	$733,068
Virginia	192,220,000	13,846	434,647			1,555,995	231,117	665,764
North Carolina	70,839,000	3,303	108,290	3,564	56,733	233,866	23,007	188,030
Total	[21] 533,919,000	[22] 31,453	[22] 962,612	9,481	173,280	3,344,343	450,970	1,586,862

[21] 320,352,000 pounds.
[22] Of this production, 25,068 tons, valued at $767,878 were reported as dry scrap, and 6,385 tons, valued at $194,734, as fish meal.

NOTE.—The menhaden factories were located as follows: 2 in New Jersey, 2 in Delaware, 11 in Virginia, 9 in North Carolina, 1 in Georgia, and 5 in Florida.

PRODUCTION OF MISCELLANEOUS BYPRODUCTS

Product	Atlantic and Gulf coasts		Pacific coast (including Alaska)		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Dried scrap:						
Alewife, tons	612	$15,777			612	$15,777
Crab, blue and king, do	1,106	25,777			1,106	25,777
Miscellaneous [23], do	[24] 2,474	[24] 50,919	([24])	([24])	2,474	50,919
Acidulated and green scrap, do	693	8,007			693	8,007
Meal:						
Herring (Alaska), do			11,015	$349,522	11,015	349,522
Herring (Maine), do	898	24,601			898	24,601
Pilchard, do			50,581	1,530,218	50,581	1,530,218
Salmon, do			1,657	50,477	1,657	50,477
Tuna, do			6,004	153,300	6,004	153,300
Mackerel, do			1,278	35,554	1,278	35,554
Ground fish "white fish", do	9,083	402,097			9,083	402,097
Blue crab, do	800	11,000			800	11,000
Shrimp, do	950	17,655	229	6,885	1,179	24,540
Miscellaneous [25], do	419	16,940	1,258	42,675	1,677	59,615

[23] Includes ground fish, herring, and miscellaneous dried scrap.
[24] A quantity of miscellaneous dried scrap produced by two firms in California is included with the production of the Atlantic and Gulf coasts.
[25] Includes clam, king crab, salmon egg, whale meat and bone, and miscellaneous meal and fish flour.

Canned fishery products and byproducts of the United States and Alaska, 1933—Con.

PRODUCTION OF MISCELLANEOUS BYPRODUCTS—Con.

Product	Atlantic and Gulf coasts		Pacific coast (including Alaska)		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Oil:						
Alewife ---- gallons	30,900	$3,518	----	----	30,900	$3,518
Cod and cod-liver:						
Medicinal ---- do	19,552	14,708	----	----	19,552	14,708
Industrial ---- do	45,331	22,152	----	----	45,331	22,152
Herring (Alaska) ---- do	----	----	3,104,821	$394.194	3,104,821	394,194
Herring (Maine) ---- do	69,391	7,963	----	----	69,391	7,963
Pilchard ---- do	----	----	10,263,776	1,593,088	10,263,776	1,593,088
Salmon ---- do	----	----	187,801	29,761	187,801	29,761
Mackerel ---- do	----	----	83,778	10,302	83,778	10,302
Whale:						
Sperm ---- do	----	----	16,200	2,900	16,200	2,900
Other ---- do	----	----	569,850	93,341	569,850	93,341
Miscellaneous [26] ---- do	[27] 6,479	[27] 1,622	([27])	([27])	6,479	1,622
Liquid glue ---- do	[28] 355,949	[28] 704,101	([28])	([28])	355,949	704,101
Miscellaneous byproducts [29] ----	----	93,405	----	279,713	----	373,118
Total ----	----	1,420,242	----	4,571,930	----	5,992,172

[26] Includes shark, shark-liver, and miscellaneous oil.

[27] A quantity of shark-liver oil produced by one firm in California is included with the production of miscellaneous oil of the Atlantic and Gulf States.

[28] A quantity of liquid glue produced by one firm in California is included with the production of liquid glue of the Atlantic and Gulf States.

[29] Includes pearl essence, fish scale novelties, shark skins and fins, isinglass, agar, and kelp products.

NOTE.—The oils produced on the Pacific coast are reported in trade gallons (7½ pounds) and those produced on the Atlantic and Gulf coasts are reported in United States gallons (about 7.74 pounds).

FROZEN FISH TRADE [3]

FISH FROZEN

During 1933 the output of freezing plants which reported their activities to the Government, amounted to 95,873,507 pounds of frozen fishery products. These products at the time they were held in cold storage plants were estimated to be valued at about $8,000,000. Compared with the pack in 1932 this was an increase of 4 percent. Six species or groups of fishery products comprised 68 percent of the pack. First in importance was the cod, haddock, haddock fillet, hake, and pollock group with 19 percent of the total, haddock fillets accounting for the bulk of the volume of this group. Next in importance was halibut, accounting for 14 percent of the total. Following was salmon with 12 percent of the total; mackerel, 11 percent; whiting, 8 percent; and shellfish, 4 percent. Other products frozen in considerable quantities during the year included sea herring, butterfish, cisco or lake herring, sablefish, smelts, weakfish or sea trout, and whitefish.

[3] The statistics in this section have been furnished by the Bureau of Agricultural Economics, Department of Agriculture.

Production of frozen fishery products, 1933

BY SPECIES AND MONTHS

Species	Month ended the 15th of—						
	January	February	March	April	May	June	July
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Bluefish (all trade sizes)	6,987	8,969	7,106	3,403	13,881	25,391	18,997
Butterfish (all trade sizes)	3,012	4,648	3,995	1,012	89,821	156,826	106,244
Catfish	40,969	31,344	14,089	36,676	75,384	83,059	50,567
Cisco (Lake Erie)	9,500	----------	----------	1,329	336	8,487	6,218
Cisco (lake herring), including bluefin, blackfin, and chub	57,958	28,758	1,710	11,332	20,605	118,097	153,667
Cisco (tullibees, Canadian lakes)	38,451	70,695	2,268	17,300	9,925	20,001	8,453
Cod, haddock, hake, and pollock	159,543	178,839	143,675	334,516	375,788	195,921	497,582
Croaker	5,208	7,355	3,360	15,425	156,939	165,396	186,522
Flounders	20,308	13,475	2,464	34,385	131,518	97,721	46,197
Haddock fillets	315,534	299,068	697,544	1,448,434	1,616,094	1,371,660	1,020,309
Halibut (all trade sizes)	172,842	214,224	955,911	377,502	813,457	1,819,825	2,609,855
Herring, sea (including alewives and bluebacks)	51,826	17,990	104,656	268,707	245,166	238,778	72,961
Lake trout	9,339	24,070	5,329	10,573	30,365	116,365	24,569
Mackerel (except Spanish)	60,751	101,913	69,234	85,765	130,637	1,860,424	1,096,802
Pike, blue and sauger	20,932	22,095	345	----------	143,909	101,927	40,965
Pike, yellow or wall-eyed	84,858	15,687	47,990	10,306	27,224	19,856	10,901
Pike (including pickerel, jacks, and yellow jack)	14,606	5,453	7,106	1,029	7,661	27,580	8,572
Sablefish (black cod)	17,769	13,719	18,638	11,245	69,716	17,762	36,314
Salmon, chinook or king	2,374	12,995	15	2,325	81,659	22,006	198,695
Salmon, silver or coho	34,547	34,889	50,008	33,330	7,155	906	45,171
Salmon, fall and pink	43,571	29,748	9,470	36,895	23,293	2,670	9,258
Salmon, steelhead trout	18,754	460	2,387	----------	7,775	4,963	72,148
Salmon, red or sockeye	32,009	63,053	81,342	14,918	15,621	53,211	47,988
Scup (porgies)	300	1,198	267	----------	11,570	157,918	20,439
Shad and shad roe	6,085	10,491	16,691	13,221	39,823	56,578	145,826
Shellfish	348,688	304,169	168,035	57,970	172,108	419,557	274,152
Smelts, eulachon, etc	257,142	287,573	157,959	32,837	18,790	4,176	4,902
Squid	8,461	7,366	6,028	----------	68,658	416,676	210,460
Sturgeon and spoonbill cat	2,390	3,422	11,996	14,875	3,059	26,865	22,020
Suckers	400	100	1,935	100	10,241	15,378	10,714
Weakfish (including southern "sea trout")	14,947	59,591	47,712	9,426	161,204	95,661	33,003
Whitefish	34,470	50,120	43,270	26,477	16,427	44,698	152,837
Whiting	58,302	83,560	76,237	46,730	38,120	1,870,586	3,215,618
Miscellaneous fish	732,671	744,212	348,090	647,111	1,029,650	872,624	773,723
Total	2,684,804	2,751,249	3,106,862	3,605,154	5,663,579	10,509,549	11,232,649

Species	Month ended the 15th of—					
	August	September	October	November	December	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Bluefish (all trade sizes)	185,588	92,209	206,571	107,768	13,951	690,821
Butterfish (all trade sizes)	35,263	224,446	780,496	198,362	7,384	1,611,509
Catfish	24,224	13,808	14,075	35,004	64,931	484,130
Cisco (Lake Erie)	17,470	28,146	4,755	4,532	36,046	116,819
Cisco (lake herring), including bluefin, blackfin, and chub	171,911	300,448	71,790	210,922	789,010	1,935,508
Cisco (tullibees, Canadian lakes)	14,503	10,384	5,030	10,000	35,922	242,932
Cod, haddock, hake, and pollock	818,695	356,580	348,738	556,269	662,744	4,628,890
Croaker	169,974	54,141	20,083	126,872	52,895	964,170
Flounders	77,983	26,748	38,866	58,569	91,759	639,993
Haddock fillets	1,857,486	1,637,281	1,831,203	1,124,859	714,688	13,934,160
Halibut (all trade sizes)	2,809,652	1,541,819	962,976	1,165,043	438,231	13,881,337
Herring, sea (including alewives and bluebacks)	255,598	664,433	432,588	600,895	414,520	3,368,118
Lake trout	30,358	23,098	89,038	315,381	146,550	825,035
Mackerel (except Spanish)	3,164,049	2,314,254	1,146,051	391,168	113,288	10,534,336
Pike, blue and sauger	2,681	7,514	29,197	110,695	283,561	763,821
Pike, yellow or wall-eyed	15,496	30,142	78,399	28,522	8,280	377,661
Pike (including pickerel, jacks, and yellow jack)	32,394	35,658	16,872	25,438	7,114	189,483
Sablefish (black cod)	104,557	178,351	325,536	238,488	40,978	1,073,073
Salmon, chinook or king	912,615	632,703	394,187	75,682	70,657	2,405,913
Salmon, silver or coho	1,399,692	1,688,842	1,696,295	1,354,783	42,371	6,387,989
Salmon, fall and pink	59,399	98,166	153,020	991,473	67,482	1,524,445
Salmon, steelhead trout	318,598	40,855	30,195	15,820	50,276	562,231
Salmon, red or sockeye	77,441	141,015	180,149	43,567	96,039	846,353
Scup (porgies)	2,561	53,184	3,870	2,350	200	253,857
Shad and shad roe	91,142	83,171	2,474	12,592	3,899	481,993
Shellfish	215,224	435,134	497,062	608,967	716,180	4,217,246

Production of frozen fishery products, 1933—Continued

BY SPECIES AND MONTHS—Continued

Species	Month ended the 15th of—					
	August	September	October	November	December	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Smelts, eulachon, etc.	28,412	25,794	26,573	56,988	174,451	1,075,597
Squid	57,026	43,084	17,143	37,259	122	872,283
Sturgeon and spoonbill cat	41,869	23,213	39,159	13,102	5,122	207,092
Suckers	740	691	1,966	6,564	2,195	51,024
Weakfish (including southern "sea trout")	22,068	80,443	225,630	388,402	64,190	1,202,277
Whitefish	345,604	251,224	220,730	50,695	72,314	1,308,866
Whiting	1,171,751	258,186	170,947	136,046	159,495	7,285,578
Miscellaneous fish	1,018,282	1,234,096	927,208	1,321,189	1,280,111	10,928,967
Total	15,550,306	12,629,261	10,988,872	10,424,266	6,726,956	95,873,507

BY GEOGRAPHICAL SECTIONS AND SPECIES [1]

[Expressed in thousands of pounds; that is, 000 omitted]

Species	New England	Middle Atlantic	South Atlantic	North Central, East	North Central, West	South Central	Pacific	Total
Bluefish (all trade sizes)	40	584	3	38	3	23	----	691
Butterfish (all trade sizes)	135	1,435	17	25	----	----	----	1,612
Catfish	94	----	67	72	207	44	----	484
Cisco (Lake Erie)	----	114	----	3	----	----	----	117
Cisco (lake herring), including bluefin, blackfin, and chub	----	695	----	966	275	----	----	1,936
Cisco (tullibees, Canadian lakes)	40	159	----	30	14	----	----	243
Cod, haddock, hake, and pollock	4,178	116	1	55	180	----	99	4,629
Croaker	----	245	572	143	----	4	----	964
Flounders	273	335	----	14	----	3	15	640
Haddock fillets	13,099	138	14	565	81	----	37	13,934
Halibut (all trade sizes)	114	557	53	904	30	25	12,198	13,881
Herring, sea (including alewives and bluebacks)	2,128	207	6	406	1	5	615	3,368
Lake trout	2	144	----	565	106	8	----	825
Mackerel (except Spanish)	9,034	1,121	3	263	20	28	66	10,535
Pike, blue and sauger	----	490	----	272	1	1	----	764
Pike, yellow or wall-eyed	----	157	----	128	93	----	----	378
Pike (including pickerel, jacks, and yellow jack)	----	17	----	67	105	----	----	189
Sablefish (black cod)	----	----	----	123	13	----	937	1,073
Salmon, king or chinook	56	57	----	40	9	----	2,244	2,406
Salmon, silver or coho	20	219	2	19	4	----	6,124	6,388
Salmon, fall and pink	6	27	----	19	3	----	1,469	1,524
Salmon, steelhead trout	----	36	9	----	----	----	517	562
Salmon, sockeye or red	----	206	----	122	23	3	492	846
Scup (porgies)	85	166	3	----	----	----	----	254
Shad and shad roe	321	77	----	37	2	2	43	482
Shellfish	505	1,785	809	559	217	7	335	4,217
Smelts, eulachon, etc.	47	874	1	35	3	----	116	1,076
Squid	510	350	----	3	----	----	9	872
Sturgeon and spoonbill cat	----	137	2	8	21	27	12	207
Suckers	----	----	----	50	1	----	----	51
Weakfish (including southern "sea trout")	1	916	285	----	----	----	----	1,202
Whitefish	5	930	----	363	8	2	1	1,309
Whiting	6,472	591	2	11	210	----	----	7,286
Miscellaneous fish	2,439	1,373	1,207	2,202	518	1,619	1,571	10,929
Total	39,604	14,258	3,056	8,107	2,148	1,801	26,900	95,874

[1] New England includes the six States of that section; Middle Atlantic—New York, New Jersey, and Pennsylvania; South Atlantic—Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida; North Central, East—Ohio, Indiana, Illinois, Michigan, and Wisconsin; North Central, West—Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas; South Central—Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Texas, Oklahoma, and Arkansas; Pacific—Washington, Oregon, California, and Alaska.

Production of frozen fishery products, 1933—Continued

BY GEOGRAPHICAL SECTIONS AND MONTHS

[Expressed in thousands of pounds; that is, 000 omitted]

Month ended the 15th of—	New England	Middle Atlantic	South Atlantic	North Central, East	North Central, West	South Central	Pacific	Total
January	475	878	294	519	95	139	285	2,685
February	411	1,007	373	426	70	165	299	2,751
March	768	674	90	252	126	132	1,065	3,107
April	1,809	246	211	214	149	96	880	3,605
May	2,367	734	345	685	130	223	1,180	5,664
June	5,606	1,499	178	1,080	135	112	1,900	10,510
July	6,294	842	266	592	173	122	2,944	11,233
August	7,640	1,205	261	522	187	167	5,568	15,550
September	5,920	1,491	55	528	166	203	4,266	12,629
October	3,733	2,455	81	530	262	148	3,780	10,989
November	2,736	1,631	193	1,309	336	138	4,081	10,424
December	1,845	1,596	709	1,450	319	156	652	6,727
Total	39,604	14,258	3,056	8,107	2,148	1,801	26,900	95,874

HOLDINGS

During 1933 monthly holdings of frozen fish and shellfish averaged 39,386,000 pounds, which is a decrease of 17 percent as compared with the average monthly holdings in 1932. The holdings during November were largest, amounting to 58,338,000 pounds; however, the holdings during each of the months from September to December inclusive exceeded 50,000,000 pounds. The holdings during April were smallest when only 19,335,000 pounds of frozen fishery products were in storage.

Holdings of frozen fishery products, 1933

BY SPECIES AND MONTHS

Species	Month ended the 15th of—					
	January	February	March	April	May	June
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Bluefish (all trade sizes)	559,958	435,422	347,239	269,480	248,983	242,194
Butterfish (all trade sizes)	338,783	212,110	104,304	52,327	114,287	238,344
Catfish	298,454	310,491	184,515	115,312	116,312	205,495
Cisco (Lake Erie)	185,365	226,019	169,994	109,912	70,406	35,578
Cisco (lake herring), including bluefin, blackfin, and chub	642,936	383,448	120,022	50,850	97,241	405,164
Cisco (tullibees, Canadian lakes)	519,842	574,534	399,555	369,894	365,597	293,063
Cod, haddock, hake, and pollock	711,656	572,020	307,200	378,341	640,836	701,109
Croaker	677,052	465,963	200,309	99,023	193,385	295,893
Flounders	213,749	167,560	91,124	92,739	184,057	191,793
Haddock fillets	2,119,521	1,440,810	868,494	1,492,497	2,549,574	2,892,345
Halibut (all trade sizes)	2,817,401	1,785,179	1,531,530	1,458,041	1,877,057	3,534,446
Herring, sea (including alewives and bluebacks)	1,573,849	1,216,964	1,009,421	963,286	1,049,428	955,260
Lake trout	591,939	440,842	194,651	67,641	89,183	194,227
Mackerel (except Spanish)	10,328,815	7,914,864	5,617,720	4,131,263	3,326,512	4,522,169
Pike, blue and sauger	326,299	186,901	90,121	24,889	149,893	246,037
Pike, yellow or wall-eyed	283,738	510,054	412,613	173,974	169,628	95,776
Pike (including pickerel, jacks, and yellow jack)	241,928	223,587	233,229	149,677	142,447	157,669
Sablefish (black cod)	698,155	564,961	454,893	337,914	298,243	245,779
Salmon, chinook or king	1,634,798	1,392,399	951,432	517,196	263,207	190,445
Salmon, silver or coho	3,639,900	2,350,043	1,151,225	564,037	261,091	217,684
Salmon, fall and pink	913,521	601,835	467,685	405,231	398,988	256,894
Salmon, steelhead trout	402,223	352,581	176,530	149,293	119,810	112,491
Salmon, red or sockeye	650,882	580,203	551,203	250,383	174,003	123,236
Scup (porgy)	176,846	125,328	63,661	14,318	15,195	168,943
Shad and shad roe	224,448	187,738	139,641	89,706	107,706	126,789
Shellfish	1,911,491	1,347,992	1,387,739	939,533	832,412	1,043,363
Smelts, eulachon, etc	344,100	797,367	1,001,143	637,436	570,138	514,727
Squid	1,568,225	1,358,679	949,980	555,421	481,787	732,305
Sturgeon and spoonbill cat	1,015,871	944,398	844,254	687,991	604,613	550,370
Suckers	13,000	12,305	8,902	3,748	12,404	27,410
Weakfish (including southern "sea trout")	378,693	351,864	208,129	82,760	213,998	285,282
Whitefish	1,312,443	1,119,443	1,151,730	623,737	457,872	312,506
Whiting	2,919,007	1,987,544	1,285,482	583,907	325,040	2,123,489
Miscellaneous fish	5,241,234	4,327,068	3,179,268	2,893,112	3,123,304	3,473,048
Total	45,476,122	35,468,516	25,854,938	19,334,869	19,644,637	25,711,323

Holdings of frozen fishery products, 1933—Continued

BY SPECIES AND MONTHS—Continued

Species	Month ended the 15th of—					
	July	August	September	October	November	December
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Bluefish (all trade sizes)	200, 182	403, 013	397, 554	530, 399	569, 529	463, 416
Butterfish (all trade sizes)	304, 718	305, 680	493, 657	1, 058, 770	1, 166, 206	996, 213
Catfish	247, 078	220, 992	188, 331	169, 853	158, 586	218, 372
Cisco (Lake Erie)	43, 676	54, 903	80, 299	80, 902	70, 921	96, 969
Cisco (lake herring), including bluefin, blackfin, and chub	608, 124	895, 361	1, 119, 058	1, 202, 198	1, 282, 964	1, 931, 787
Cisco (tullibees, Canadian lakes)	280, 144	282, 035	223, 554	225, 608	169, 036	303, 956
Cod, haddock, hake, and pollock	1, 117, 222	1, 688, 080	1, 531, 236	1, 212, 754	1, 429, 789	1, 843, 168
Croaker	457, 792	568, 898	548, 210	520, 290	511, 073	522, 778
Flounders	188, 961	244, 312	219, 006	196, 141	223, 936	265, 347
Haddock fillets	3, 039, 853	4, 255, 986	4, 575, 522	5, 590, 470	5, 349, 530	4, 980, 536
Halibut (all trade sizes)	5, 875, 009	8, 372, 420	9, 507, 466	9, 767, 880	9, 243, 309	7, 792, 242
Herring, sea (including alewives and blue-backs)	796, 715	845, 985	1, 263, 856	1, 435, 579	2, 023, 058	2, 016, 529
Lake trout	180, 340	175, 023	174, 598	269, 536	566, 689	702, 037
Mackerel (except Spanish)	5, 044, 686	7, 635, 663	8, 839, 982	9, 015, 455	7, 864, 802	6, 928, 127
Pike, blue and sauger	171, 917	29, 832	27, 786	131, 874	360, 420	754, 228
Pike, yellow or wall-eyed	94, 201	74, 079	111, 727	168, 761	131, 178	189, 019
Pike (including pickerel, jacks, and yellow jack)	121, 832	130, 037	156, 886	153, 858	152, 016	174, 791
Sablefish, (black cod)	264, 425	315, 856	392, 060	614, 749	786, 817	744, 063
Salmon, chinook or king	305, 232	1, 088, 979	1, 630, 962	1, 886, 125	1, 937, 629	1, 686, 661
Salmon, silver or coho	251, 069	1, 352, 722	2, 807, 859	4, 175, 741	5, 302, 877	3, 508, 861
Salmon, fall and pink	221, 546	247, 461	320, 926	385, 047	1, 192, 622	2, 326, 835
Salmon, steelhead trout	157, 676	315, 006	387, 643	277, 532	234, 291	282, 063
Salmon, red or sockeye	105, 838	121, 427	219, 554	365, 603	346, 922	354, 713
Scup (porgy)	181, 446	180, 164	224, 978	225, 293	206, 503	159, 240
Shad and shad roe	264, 253	337, 660	415, 015	379, 399	366, 933	389, 991
Shellfish	981, 724	895, 579	1, 055, 641	1, 264, 341	1, 699, 591	2, 024, 535
Smelts, eulachon, etc	500, 734	517, 146	526, 927	518, 594	437, 173	430, 666
Squid	828, 188	731, 668	633, 377	537, 180	500, 149	363, 533
Sturgeon and spoonbill cat	460, 495	357, 055	276, 833	261, 119	272, 584	405, 263
Suckers	36, 245	35, 390	32, 430	32, 094	21, 414	29, 978
Weakfish (including southern "sea trout")	272, 347	279, 232	328, 761	531, 953	782, 728	668, 234
Whitefish	1, 229, 976	2, 180, 867	2, 525, 231	2, 502, 796	2, 511, 392	2, 729, 242
Whiting	5, 020, 126	5, 652, 475	5, 534, 893	5, 283, 745	4, 977, 054	4, 799, 664
Miscellaneous fish	3, 477, 144	4, 091, 137	4, 703, 111	4, 956, 142	5, 488, 579	6, 105, 432
Total	33, 330, 914	44, 882, 133	51, 474, 979	55, 927, 781	58, 338, 350	57, 188, 489

BY GEOGRAPHICAL SECTIONS AND MONTHS[1]

[Expressed in thousands of pounds; that is, 000 omitted]

Month ended the 15th of—	New England	Middle Atlantic	South Atlantic	North Central, East	North Central, West	South Central	Pacific[2]	Total
January	16, 120	9, 937	2, 781	4, 760	2, 402	524	8, 952	45, 476
February	12, 271	8, 843	2, 045	3, 825	2, 246	456	5, 783	35, 469
March	8, 348	6, 877	1, 298	2, 370	1, 857	340	4, 765	25, 855
April	6, 173	4, 847	1, 048	1, 610	1, 441	284	3, 932	19, 335
May	6, 130	4, 462	1, 066	2, 277	1, 493	396	3, 821	19, 645
June	9, 916	4, 988	1, 060	2, 863	1, 592	330	4, 962	25, 711
July	14, 474	5, 811	1, 231	2, 604	1, 435	268	7, 508	33, 331
August	20, 071	7, 084	1, 427	2, 608	1, 408	329	11, 955	44, 882
September	22, 598	7, 572	1, 257	2, 717	1, 587	404	15, 340	51, 475
October	23, 015	9, 378	1, 306	2, 972	1, 708	397	17, 152	55, 928
November	21, 389	10, 436	1, 361	4, 119	2, 083	427	18, 523	58, 338
December	19, 342	11, 988	1, 980	5, 622	2, 383	485	15, 388	57, 188
Average	14, 987	7, 685	1, 488	3, 196	1, 803	387	9, 840	39, 386

[1] New England includes the 6 States of that section; Middle Atlantic—New York, New Jersey, and Pennsylvania; South Atlantic—Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida; North Central, East—Ohio, Indiana, Illinois, Michigan, and Wisconsin; North Central, West—Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas; South Central—Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Texas, Oklahoma, and Arkansas; Pacific—Washington, Oregon, California, and Alaska.

[2] Includes a very small amount of fish held in Colorado in the Mountain section.

COLD-STORAGE HOLDINGS OF CURED FISH

During 1933 monthly cold-storage holdings of cured herring and mild-cured salmon averaged 14,907,000 pounds, which is a decrease of 18 percent as compared with the average monthly holdings in 1932. The holdings during October were largest, amounting to 21,924,000 pounds, and the smallest were in April, amounting to 9,191,000 pounds.

Holdings of cured fish, 1933: By species and months

Month ended the 15th of—	Cured herring	Mild-cured salmon	Total
	Pounds	*Pounds*	*Pounds*
January	12, 136, 374	3, 933, 005	16, 069, 379
February	11, 137, 364	3, 544, 376	14, 681, 740
March	9, 623, 504	2, 400, 345	12, 023, 849
April	7, 621, 553	1, 569, 788	9, 191, 341
May	8, 652, 589	2, 266, 722	10, 919, 311
June	9, 211, 715	1, 402, 142	10, 613, 857
July	9, 062, 692	1, 696, 780	10, 759, 472
August	9, 236, 158	5, 169, 901	14, 406, 059
September	12, 324, 553	6, 631, 918	18, 956, 471
October	15. 710, 119	6, 214, 266	21, 924, 385
November	15, 214, 185	5, 928, 630	21, 142, 815
December	13, 620, 771	4, 576, 118	18, 196, 889

FOREIGN FISHERY TRADE

The foreign trade in fishery products of the United States in 1933 amounted to $38,801,064 of which $30,462,341 represents the value of these products imported for consumption, and $8,338,723, the value of exports of domestic fishery products. Compared with the previous year, there was an increase of 4 percent in the total trade, 3 percent in the value of the imports, and 7 percent in the value of exports.

Imports consisted of 284,306,782 pounds of edible products, valued at $21,782,874, and nonedible products, valued at $8,679,467. Fishery exports consisted of 80,007,878 pounds of edible products, valued at $7,376,401 and nonedible products, valued at $962,322.

Exports of domestic fishery products, 1933

Item	Quantity	Value
EDIBLE FISHERY PRODUCTS		
Fish, fresh, frozen, or packed in ice:		
Salmon—pounds	5, 754, 305	$545, 946
Other—do	2, 744, 270	207, 106
Total—do	8, 498, 575	753, 052
Fish, salted, smoked, or dry-cured:		
Cod—do	647, 419	58, 472
Salmon—do	779, 232	108, 456
Other—do	989, 921	46, 513
Total—do	2, 416, 572	213, 441
Fish, pickled:		
Salmon—do	1, 941, 800	268, 296
Other—do	1, 088, 000	43, 434
Total—do	3, 029, 800	311, 730

Exports of domestic fishery products, 1933—Continued

Item	Quantity	Value
EDIBLE FISHERY PRODUCTS—continued		
Fish, canned:		
Mackerel ..... pounds	1,968,982	$93,071
Salmon ..... do	26,539,379	3,289,924
Sardines ..... do	25,641,265	1,386,680
Other ..... do	320,132	47,316
Total ..... do	54,469,758	4,816,991
Shellfish, not canned:		
Oysters, fresh, in the shell ..... do	2,901,860	97,134
Oysters, fresh, shucked, frozen, or in ice ..... do	1,265,060	151,785
Shrimp, fresh, frozen, or in ice ..... do	1,852,664	176,859
Shrimp, dried ..... do	1,646,888	265,561
Other shellfish, fresh, frozen, in ice or dried ..... do	129,108	13,833
Total ..... do	7,795,580	705,172
Shellfish, canned ..... do	3,481,792	512,632
Other fish products ..... do	315,801	63,383
Total edible products ..... do	80,007,878	7,376,401
NONEDIBLE FISHERY PRODUCTS		
Marine-animal oils ..... do	5,849,288	163,138
Sponges ..... do	72,101	67,727
Fish meal for feed ..... tons	7,918	346,133
Oyster shells ..... do	57,000	385,324
Total nonedible products		962,322
Grand total		8,338,723

Imports of fishery products entered for consumption, 1933

Item	Pounds	Value
EDIBLE FISHERY PRODUCTS		
Fish, fresh or frozen:		
Whole, beheaded, or eviscerated, or both:		
Salmon	5,083,345	$384,786
Fresh-water fish, not elsewhere specified:		
Yellow pike	8,498,767	589,015
Whitefish	10,029,807	871,847
Tullibees	1,535,130	46,425
Jacks or grass pike	1,825,550	86,837
Lake trout	1,766,268	167,389
Yellow perch	1,077,969	71,347
Lake herring, ciscoes, and chubs	992,572	101,657
Fresh-water fish, not elsewhere specified	14,434,347	859,508
Eels	237,735	19,626
Cod, haddock, hake, pollock, and cusk	593,186	26,769
Halibut:		
Fresh	3,015,619	230,834
Frozen	1,070,753	89,367
Mackerel	507,816	22,719
Swordfish	2,633,935	232,349
Sturgeon	1,960,794	222,685
Fish, not specially provided for	2,154,022	103,205
Whether or not whole:		
Smelts	6,726,196	672,068
Tuna fish	5,935,957	232,987
Sea herring:		
Fresh	23,899,000	95,197
Frozen	1,963,474	52,535
Fillets, skinned, boned, sliced, or divided, not specially provided for	2,504,541	261,523
Total	98,446,783	5,440,675
Fish, salted, dried, smoked, pickled or preserved:		
Dried and unsalted:		
Cod, haddock, hake, pollock, and cusk	27,721	2,812
Other	3,150,758	295,311
In oil or in oil and other substances:		
Sardines	33,555,513	2,811,197
Anchovies	1,724,766	455,718
Antipasto	158,866	56,587
Tuna	14,382,256	1,969,144
Other	136,416	20,027

Imports of fishery products entered for consumption, 1933—Continued

Item	Pounds	Value
EDIBLE FISHERY PRODUCTS—continued		
Fish, salted, dried, smoked, pickled or preserved—Continued.		
Not in oil or in oil and other substances:		
In air-tight containers weighing with contents, not over 15 pounds each:		
Anchovies	2,025,739	$170,845
Salmon	4,815,768	227,312
Herring and sardines	7,699,857	446,378
Fish cakes, balls, and pudding	1,746,804	91,103
Other	1,538,446	133,499
Pickled or salted:		
Not in oil, etc., and not in air-tight containers weighing, with contents, 15 pounds or less each:		
Salmon	317,900	31,777
Cod, haddock, hake, pollock, and cusk, neither skinned nor boned (except that vertebral column may be removed):		
Containing not more than 43 percent moisture by weight	12,164,979	564,847
Containing more than 43 percent moisture by weight	26,476,539	833,671
Cod, haddock, hake, pollock and cusk, skinned or boned	2,027,855	139,522
Herring:		
In bulk or in containers weighing, with contents, more than 15 pounds each (net weight)	29,326,957	1,335,125
In containers (not air-tight), weighing, with contents, not more than 15 pounds each	133,638	4,704
Mackerel:		
In bulk or in containers weighing, with contents, more than 15 pounds each (net weight)	4,403,451	176,341
Pickled or salted, not specially provided for:		
In bulk or in containers weighing, with contents, more than 15 pounds each (net weight)	1,294,831	74,184
In containers (not air-tight) weighing, with contents, not more than 15 pounds each	8,750	881
Smoked or kippered:		
Not in oil, etc., and not in air-tight containers weighing, with contents, 15 pounds or less each:		
Salmon	2,270	1,109
Herring:		
Whole or beheaded	638,607	27,044
Eviscerated, split, skinned, boned, or divided	871,021	73,631
Cod, haddock, hake, pollock, and cusk:		
Whole, or beheaded, or eviscerated, or both	686,551	54,108
Filleted, skinned, boned, sliced, or divided	885,815	80,003
Smoked or kippered, not specially provided for	16,025	1,159
Fish paste and fish sauce	74,281	24,142
Prepared or preserved, not specially provided for:		
In containers weighing, with contents, not more than 15 pounds each	57,504	6,529
In bulk or in containers weighing, with contents, more than 15 pounds each (net weight)	148,464	14,231
Total	150,498,348	10,122,941
Caviar and other fish roe:		
Not boiled, etc.:		
Sturgeon	263,147	248,657
Fish roe, not specially provided for	99,195	11,320
Boiled, packed in air-tight containers	49,227	3,774
Total	411,569	263,751
Shellfish:		
Crab meat, crab sauce, and crab paste	9,526,113	2,893,435
Clams, clam juice, or either in combination with other substances, in air-tight containers	1,417,315	131,856
Oysters, oyster juice, or either in combination with other substances in airtight containers	97,381	19,659
Lobsters (including spiny lobsters and crawfish):		
Not canned	10,622,543	1,733,988
Canned	1,468,796	485,038
Clams not in airtight containers	1,368,207	21,313
Shrimp and prawn	716,235	84,989
Scallops	834,556	114,695
Oysters, not in airtight containers	4,905,457	118,337
Shellfish, not specially provided for	3,622,816	326,087
Pastes and sauces of shellfish, not specially provided for	124,524	12,077
Crabs	11,380	920
Turtles	234,759	13,113
Total	34,950,082	5,955,507
Total edible fishery products	284,306,782	21,782,874

Imports of fishery products entered for consumption, 1933—Continued

Item	Pounds	Value
NONEDIBLE FISHERY PRODUCTS		
Marine-animal oils:	*Quantity*	
Cod oil—gallons	2,115,144	$449,695
Cod-liver oil—do	3,432,569	1,711,072
Eulachon oil—do	760	326
Herring oil—do	699,296	42,431
Menhaden oil—do	1,493	119
Seal oil—do	106,048	22,939
Sod oil—do	78,652	11,131
Whale oil:		
Sperm, crude—do	520,212	119,527
Sperm, refined or otherwise processed—do	106,308	38,238
Whale oil, not specially provided for—do	5,735,613	2,398,728
Total—do	12,796,095	4,794,206
Pearls and imitation pearls:		
Pearls and parts, not strung or set	----------	681,083
Imitation pearls:		
Half pearls and hollow or filled	----------	4,509
Solid pearls, not elsewhere specified:		
Valued at not more than one-fourth cent an inch—inches	14,880	10
Valued at more than one-fourth cent and not more than 1 cent an inch—inches	54,707	355
Iridescent solid pearls:		
Valued at not more than 10 cents per inch—do	3,065	79
Total	----------	686,036
Shells and buttons of pearl or shell:		
Shells, unmanufactured:		
Green snail shell—pounds	205,538	16,110
Mother-of-pearl—do	4,905,025	1,131,197
Shells, not specially provided for—do	4,392,206	39,375
Shells and mother-of-pearl, engraved, cut, ornamented, or manufactured	----------	50,078
Shell pearl buttons:		
Ocean or trochus—gross	236,829	66,566
Fresh-water—do	100	40
Buttons (from Philippine Islands)—do	749,469	249,170
Total	----------	1,552,536
Sponges:		
Sheepswool—pounds	133,477	202,083
Yellow, grass, or velvet—do	231,621	79,389
Other—do	82,786	69,636
Manufactures of—do	96	28
Total—do	447,980	351,136
Agar agar—do	629,784	165,627
Ambergris—do	8	763
Cod-liver oil cake and cod-liver oil cake meal—do	1,614,598	24,744
Cuttlefish bone—do	295,182	35,091
Goldfish, live—number	1,125,012	7,103
Fish for other than human consumption, not elsewhere specified	----------	189,836
Fish sounds—pounds	98,046	14,223
Fish scrap and fish meal—tons	26,526	689,192
Kelp—pounds	38,550	561
Leather, seal—square feet	26	11
Skins, fish, raw or salted—pounds	884,412	31,804
Skins, seal, raw (not fur skins)—do	1,416,355	125,608
Spermaceti wax—do	100,843	10,334
Whalebone, unmanufactured—do	503	92
Whalebone, manufactures of	----------	564
Total	----------	1,295,553
Total, nonedible fishery products	----------	8,679,467
Grand total	----------	30,462,341

FISHERIES OF THE NEW ENGLAND STATES

(Area XXII) [4]

The yield of the commercial fisheries of the New England States (Maine, New Hampshire, Massachusetts, Rhode Island, and Connecticut) during 1933, amounted to 499,936,139 pounds, valued at $13,485,550 to the fishermen, representing an increase of 4 percent in volume, but a decrease of 4 percent in value as compared with the catch in the previous year. These fisheries gave employment to 17,073 fishermen as compared with 16,472, in 1932.

There were 362 fishery wholesale and manufacturing establishments in the 5 States in 1933 as compared with 436 in 1931 when the most recent previous survey of such concerns was made. In 1933 these establishments employed 9,177 persons, paid $5,410,072 in salaries and wages, and produced manufactured products (canned, cured, packaged, and byproducts) valued at $14,322,274. In 1931, the wholesale and manufacturing firms employed 10,273 persons, paid $7,113,463 in salaries and wages, and produced manufactured products, valued at $18,616,951.

Fisheries of the New England States, 1933

SUMMARY OF CATCH

Product	Maine		New Hampshire		Massachusetts	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Fish	83,071,766	$848,662	306,475	$8,841	359,144,370	$8,196,646
Shellfish, etc	15,426,316	1,458,445	216,929	48,230	14,525,908	1,310,332
Total	98,498,082	2,307,107	523,404	57,071	373,670,278	9,506,978

Product	Rhode Island		Connecticut		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Fish	11,648,054	$282,642	7,450,301	$255,662	461,620,966	$9,592,453
Shellfish, etc	5,718,293	718,622	2,427,727	357,468	38,315,173	3,893,097
Total	17,366,347	1,001,264	9,878,028	613,130	499,936,139	13,485,550

[4] This is the number given this area by the North American Council on Fishery Investigations. It should be explained that there are included under this area craft whose principal fishing ports are in the area but at times fish elsewhere. Notable examples are the ground fish fishery in area XXI and the mackerel and southern trawl fisheries in areas XXIII and XXIV. It should be observed that the persons engaged, gear and craft employed, and catch of the seed oyster fishery are not included among the statistics of the fishery for market oysters and other species but are shown in separate tables in this section. For a clearer understanding of the statistics published in this section, the reader is referred to the section in the latter part of this document entitled "Statistical survey procedure."

Fisheries of the New England States, 1933—Continued

OPERATING UNITS: By States

Item	Maine	New Hampshire	Massachusetts	Rhode Island	Connecticut	Total
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	443		3,971	328	307	5,049
On boats and shore:						
Regular	3,748	48	2,781	371	360	7,308
Casual	1,841	52	1,652	677	494	4,716
Total	6,032	100	8,404	1,376	1,161	17,073
Vessels:						
Steam			13	8	3	24
Net tonnage			2,097	201	581	2,879
Motor	73		365	65	67	570
Net tonnage	856		13,995	695	1,056	16,602
Sail	1					1
Net tonnage	47					47
Total vessels	74		378	73	70	595
Total net tonnage	903		16,092	896	1,637	19,528
Boats:						
Motor	2,342	34	1,478	433	294	4,581
Other	1,396	17	1,624	506	276	3,819
Accessory boats	172		942	74	39	1,227
Apparatus:						
Purse seines:						
Mackerel	25		97	2		124
Length, yards	6,648		45,720	420		52,788
Other	51		2	1		54
Length, yards	7,040		260	400		7,700
Haul seines	31	1	15	20	12	79
Length, yards	3,100	35	1,655	2,512	1,668	8,970
Gill nets:						
Anchor	1,736	4	704		2	2,446
Square yards	556,491	2,160	280,655		1,680	840,986
Drift	709		4,105	44	43	4,901
Square yards	230,396		1,530,960	17,800	12,360	1,791,5 6
Runaround			1			1
Square yards			1,800			1,800
Lines:						
Hand	5,089	116	505	248	405	6,363
Hooks	5,259	116	671	319	443	6,808
Trawl	24,134	260	47,836	51	800	73,081
Hooks	1,155,574	13,000	2,380,062	24,700	35,680	3,609,016
Troll			8	48		56
Hooks			8	48		56
Trot with hooks	16			1		17
Hooks	1,600			200		1,800
Pound nets	3		86	64	9	162
Floating traps	21		17	40		78
Weirs	213		4			217
Fyke nets	56		24	37	4	121
Dip nets	124		130		119	373
Bag nets	112	30				142
Push nets			50			50
Pocket nets	2					2
Otter trawls	50		366	61	89	566
Yards at mouth	1,235		21,084	1,635	2,373	26,327
Box traps	13		3			16
Pots:						
Crab	2,296		1,095			3,391
Eel	222		1,565	1,698	1,289	4,774
Lobster	180,439	2,990	65,147	53,672	17,212	319,460
Periwinkle and cockle			935	1,585		2,520
Harpoons	43		126	36	16	221
Spears	26		185	13	42	266
Dredges:						
Oyster			34	30	43	107
Yards at mouth			44	45	65	154
Scallop	155		2,038	374	2	2,569
Yards at mouth	231		1,895	324	7	2,457
Clam			63	12		75
Yards at mouth			31	9		40
Mussel				1		1
Yards at mouth				1		1
Tongs			166	543	118	827
Rakes			654	75	71	800
Forks			945	8		953
Hoes	1,605		260	26	38	1,929

Fisheries of the New England States, 1933—Continued

CATCH: BY STATES

Species	Maine		New Hampshire		Massachusetts		Rhode Island		Connecticut		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	1,703,078	$6,371			923,056	$8,399	176,000	$1,915	15,162	$152	2,817,296	$16,837
Amberjack					2,275	68					2,275	68
Bluefish	85	11			430,040	42,882	194,386	10,806	296,454	22,058	920,965	75,757
Bonito					5,222	233	46,322	1,923			51,544	2,156
Butterfish	99,475	5,059			951,585	45,905	486,522	16,204	15,941	764	1,553,523	67,932
Cod	9,336,894	145,484	28,602	$858	89,210,361	1,688,460	908,241	16,735	147,925	4,457	99,632,023	1,855,994
Crevalle							2,200	81			2,200	81
Croaker					2,491,145	35,716			5,738	136	2,496,883	35,852
Cunners	175	5			152	2	41,440	451			41,767	458
Cusk	1,583,366	18,342	17,161	343	4,509,004	53,766					6,109,531	72,451
Drum:												
Black					32	1			100	1	132	2
Red					1,755	32					1,755	32
Eels:												
Common	102,025	8,028			222,279	10,727	145,611	12,113	47,394	3,964	517,309	34,832
Conger					38,617	733	958	29	1,400	120	40,975	882
Flounders	1,178,669	27,517			27,187,427	878,601	3,253,077	90,930	6,176,038	175,968	37,795,211	1,173,016
Frigate mackerel					68,799	2,752	56,654	1,609			125,453	4,361
Grayfish	316	7			12,512	132	600	12			13,428	151
Haddock	9,306,555	215,744	60,063	2,703	150,680,476	3,425,852	23,968	703	35,450	1,018	160,106,512	3,646,020
Hake	7,084,013	66,270	168,749	2,531	8,056,678	133,691	9,171	183	1,081	20	15,319,692	202,695
Halibut	50,011	4,776			2,401,292	230,469			6,063	310	2,457,366	235,555
Herring, sea	43,774,988	160,816	2,000	20	3,572,960	38,784	737,006	11,467			48,086,954	211,087
Herring smelt					11,648	313					11,648	313
Hickory shad							2,308	23			2,308	23
King whiting or "kingfish"					38,296	1,035	1,440	53	451	12	40,187	1,100
Launce					21,000	420					21,000	420
Mackerel	4,499,107	57,740	1,050	53	35,611,363	798,108	719,289	22,137	870	27	40,831,679	878,065
Menhaden					334	4	1,003,510	2,535	25,250	252	1,029,094	2,791
Mullet					10	1	8,811	321			8,821	322
Pigfish					3,832	73					3,832	73
Pollock	3,006,065	23,414	11,441	114	11,991,798	140,076	17,242	451			15,026,546	164,055
Rosefish	2,063	14			262,255	2,827					264,318	2,841
Salmon	24,644	6,269			45	9					24,689	6,278
Scup or porgy					2,133,410	50,068	2,019,431	37,433	41,987	1,659	4,194,828	89,160
Sea bass					3,923,089	117,321	48,265	2,543	27,615	1,843	3,998,969	121,707
Sea robin					400	8	73,785	697	3,250	33	77,435	738
Shad	178,901	1,834			62,751	1,986	10,760	1,138	133,280	10,969	385,692	15,927

Sharks	29,923	230			34,148	287	1,947	28			66,018	545
Sheepshead					9	1					9	1
Skates	7,981	115			37,256	479	176,410	1,328	18,550	185	240,197	2,107
Skipper or "billfish"					4,110	41	730	14			4,840	55
Smelt	529,990	56,827	14,267	2,140			4,250	425	2,240	224	550,747	59,616
Spot					32,743	376	45	1	50	1	32,838	378
Squeteagues or "sea trout":												
Gray					286,547	8,543	63,310	4,012	19,510	1,736	369,367	14,291
Spotted					2,048	204					2,048	204
Striped bass					19,957	3,932	39,232	2,418	2,250	225	61,439	6,575
Sturgeon	2,308	224			5,130	639	449	37	44	5	7,931	905
Suckers	50,518	1,502							1,000	60	51,518	1,562
Swordfish	323,939	39,381			2,643,512	324,817	259,710	23,709	154,235	16,650	3,381,396	404,647
Tautog					173,543	6,766	267,123	7,402	43,098	1,895	483,764	16,063
Thimble-eyed mackerel							77,707	1,533			77,707	1,533
Tilefish									207,000	10,330	207,000	10,330
Tomcod	1,964	51					200	1			2,164	52
Tuna or "horse mackerel"	100,532	2,069			256,372	14,016	44,577	1,484			401,481	17,569
White perch					48,786	7,109	861	42			49,647	7,151
Whiting					8,677,742	88,648	724,506	7,626	16,775	547	9,419,023	96,821
Wolffish	93,647	482	3,142	79	2,096,569	31,334			4,100	41	2,197,458	31,936
Yellow perch	534	80									534	80
Total	83,071,766	848,662	306,475	8,841	359,144,370	8,196,646	11,648,054	282,642	7,450,301	255,662	461,620,966	9,592,453
SHELLFISH, ETC.												
Crabs:												
Hard	501,666	15,126			5,106,515	24,795	20,478	369	400	25	5,629,059	40,315
King							6,574	18			6,574	18
Lobsters	5,897,685	1,000,094	216,929	48,230	1,928,616	381,649	708,095	113,933	336,800	64,135	9,088,125	1,608,041
Shrimp					41,200	2,170					41,200	2,170
Periwinkles and cockles	15,516	825			65,700	6,350	109,442	5,201			190,658	12,376
Clams:												
Hard, public [1]	11,594	1,054			1,766,525	215,048	1,068,891	125,047	101,605	20,735	2,948,615	361,884
Hard, private [1]					2,200	400	89,045	12,249			91,245	12,649
Razor					358,400	15,874					358,400	15,874
Soft, public [2]	6,548,620	224,005			2,836,090	245,469	32,384	4,214	13,683	1,953	9,430,777	475,641
Surf or skimmer					59,240	3,575					59,240	3,575
Mussels, sea	110,596	2,534			30,000	3,000	650	38			141,246	5,572
Oysters: [3]												
Market, public, spring							26,880	3,840	10,150	1,250	37,030	5,090
Market, public, fall							38,444	5,507	11,550	1,450	49,944	6,957
Market, private, spring					75,161	25,680	1,525,384	211,748	613,547	81,383	2,214,092	318,811
Market, private, fall					105,448	34,357	1,527,055	211,897	1,223,661	170,261	2,856,164	416,515

[1] Statistics on hard clams used in this table are based on yields of 11 pounds of meats per bushel in Maine, Massachusetts, and Rhode Island and 10 pounds in Connecticut.

[2] Statistics on soft clams used in this table are based on yield of 15 pounds of meats per bushel in Maine and Massachusetts; 16 pounds in Rhode Island, and 14 pounds in Connecticut.

[3] Statistics on oysters used in this table are based on yields of 6.57 pounds of meats per bushel in Massachusetts, 6.96 pounds in Rhode Island and 6.81 pounds in Connecticut.

Fisheries of the New England States, 1933—Continued

CATCH: BY STATES—Continued

Species	Maine		New Hampshire		Massachusetts		Rhode Island		Connecticut		Total	
SHELLFISH, ETC.—continued	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Scallops:												
Bay					500, 115	$180, 975	63, 120	$12, 943	57, 500	$10, 000	620, 735	$203, 918
Sea	1, 073, 172	$145, 884			1, 029, 097	115, 344			55, 926	6, 226	2, 158, 195	267, 454
Squid	203	2			570, 536	7, 564	501, 851	11, 618	2, 905	50	1, 075, 495	19, 234
Irish moss					11, 650	582					11, 650	582
Bloodworms	642, 852	42, 724			17, 759	28, 000					660, 611	70, 724
Sandworms	618, 567	25, 980			21, 656	19, 500					640, 223	45, 480
Sea urchins	5, 845	217									5, 845	217
Total	15, 426, 316	1, 458, 445	216, 929	$48, 230	14, 525, 908	1, 310, 332	5, 718, 293	718, 622	2, 427, 727	357, 468	38, 315, 173	3, 893, 097
Grand total	98, 498, 082	2, 307, 107	523, 404	57, 071	373, 670, 278	9, 506, 978	17, 366, 347	1, 001, 264	9, 878, 028	613, 130	499, 936, 139	13, 485, 550

NOTE.—Of the total catch in Massachusetts, 10,619,503 pounds of fishery products, valued at $281,810, were taken in the southern winter trawl fishery off southern New Jersey, Maryland, Virginia, and North Carolina. Of the total catch in Connecticut, 111,837 pounds of fishery products, valued at $4,641, were taken in the same fishery. These products consisted principally of croaker, flounders, scup, and sea bass.

Fisheries of the New England States, 1933—Continued

PRODUCTION OF CERTAIN SHELLFISH IN NUMBER AND BUSHELS

Product	Maine		Massachusetts		Rhode Island		Connecticut		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Crabs:										
Hard...number	1,504,998	$15,126	15,319,545	$24,795	61,434	$369	1,200	$25	16,887,177	$40,315
King...do					1,644	18			1,644	18
Clams:										
Hard, public bushels	1,054	1,054	160,593	215,048	97,172	125,047	10,160	20,735	268,979	361,884
Hard, private do			200	400	8,095	12,249			8,295	12,649
Razor...do			11,200	15,874					11,200	15,874
Soft, public do	436,575	224,005	189,073	245,469	2,024	4,214	977	1,953	628,649	475,641
Surf or skimmer do			3,485	3,575					3,485	3,575
Mussels, sea...do	9,216	2,534	3,000	3,000	50	38			12,266	5,572
Oysters:										
Market, public, spring...do					3,862	3,840	1,490	1,250	5,352	5,090
Market, public, fall...do					5,524	5,507	1,696	1,450	7,220	6,957
Market, private, spring...do			11,440	25,680	219,164	211,748	90,095	81,383	320,699	318,811
Market, private, fall...do			16,050	34,357	219,404	211,897	179,686	170,261	415,140	416,515
Periwinkles and cockles...do	862	825	3,650	6,350	6,080	5,201			10,592	12,376
Scallops:										
Bay...do			83,352	180,975	10,520	12,943	10,000	10,000	103,872	203,918
Sea...do	178,862	145,884	171,516	115,344			9,321	6,226	359,699	267,454

SEED OYSTER FISHERY

Item	Rhode Island		Connecticut		Total	
OPERATING UNITS	*Number*		*Number*		*Number*	
Fishermen:						
On vessels			93		93	
On boats and shore:						
Regular	5				5	
Casual	6		154		160	
Total	11		247		258	
Vessels:						
Steam			3		3	
Net tonnage			245		245	
Motor			18		18	
Net tonnage			271		271	
Sail			2		2	
Net tonnage			17		17	
Total vessels			23		23	
Total net tonnage			533		533	
Boats:						
Motor			7		7	
Other	2		88		90	
Apparatus:						
Dredges			101		101	
Yards at mouth			97		97	
Tongs	2		94		96	
Rakes			46		46	
CATCH	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*
Oysters:						
Seed, public, spring	995	$499	30,463	$12,185	31,458	$12,684
Seed, public, fall			43,163	17,265	43,163	17,265
Seed, private, spring			207,185	69,617	207,185	69,617
Total	995	499	280,811	99,067	281,806	99,566

NOTE.—Of the total number of persons fishing for seed oysters, 135 are duplicated among those fishing for market oysters or other species. Similarly the following craft and gear are duplicated; 78 boats other than motor, 82 tongs, and 46 rakes

Industries related to the fisheries of the New England States, 1933

OPERATING UNITS, SALARIES, AND WAGES

Item	Maine and New Hampshire	Massachusetts	Rhode Island	Connecticut	Total
Transporting:					
Persons engaged:	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	149	43	8	56	256
On boats	16	----------	38	----------	54
Total	165	43	46	56	310
Vessels:					
Steam	----------	----------	----------	1	1
Net tonnage	----------	----------	----------	67	67
Motor	74	12	4	14	104
Net tonnage	813	338	39	425	1,615
Total vessels	74	12	4	15	105
Total net tonnage	813	338	39	492	1,682
Boats	11	----------	20	----------	31
Wholesale and manufacturing:					
Establishments	131	165	35	31	362
Persons engaged:					
Proprietors	112	89	29	36	266
Salaried employees	142	587	35	35	799
Wage earners:					
Average for season	4,383	3,012	301	416	8,112
Average for year	1,298	2,336	207	329	4,170
Paid to salaried employees	$253,670	$1,291,380	$83,949	$85,198	$1,714,197
Paid to wage earners	$765,974	$2,382,013	$159,894	$387,994	$3,695,875
Total salaries and wages	$1,019,644	$3,673,393	$243,843	$473,192	$5,410,072
Fishermen manufacturing	612	1,480	109	22	2,223

PRODUCTS MANUFACTURED

Item	Maine		Massachusetts		Rhode Island		Connecticut	
BY MANUFACTURING ESTABLISHMENTS								
Alewives: Salted, tight pack pounds	*Quantity* 567,238	*Value* $9,669	*Quantity* [1]	*Value* [1]	*Quantity*	*Value*	*Quantity*	*Value*
Cod:								
Fresh sticks do	251,778	46,844	----------	----------	----------	----------	----------	----------
Fresh fillets do	109,857	12,903	4,827,997	$525,929	----------	----------	----------	----------
Frozen fillets do	[1]	[1]	3,969,607	344,363	----------	----------	----------	----------
Salted:								
Green [2] do	734,166	28,885	593,764	29,648	----------	----------	----------	----------
Dry do	59,196	2,054	[1]	[1]	----------	----------	----------	----------
Boneless, including absolutely boneless pounds	131,175	16,333	6,312,775	1,189,945	----------	----------	----------	----------
Smoked fillets do	44,889	6,718	1,017,034	147,241	----------	----------	----------	----------
Oil, cod gallons	3,350	670	41,981	21,482	----------	----------	----------	----------
Oil, cod-liver do	----------	----------	19,552	14,708	----------	----------	----------	----------
Cusk:								
Fresh sticks pounds	136,177	25,067	----------	----------	----------	----------	----------	----------
Fresh fillets do	9,612	958	311,954	39,186	----------	----------	----------	----------
Salted:								
Green [2] do	31,150	673	[1]	[1]	----------	----------	----------	----------
Boneless, including absolutely boneless pounds	[1]	[1]	23,785	2,762	----------	----------	----------	----------
Flounders:								
Fresh fillets do	----------	----------	867,450	148,917	----------	----------	----------	----------
Frozen fillets do	[1]	[1]	264,924	34,984	----------	----------	----------	----------
Haddock:								
Fresh sticks do	69,168	12,559	----------	----------	----------	----------	----------	----------
Fresh fillets do	163,908	26,982	15,016,474	1,750,062	----------	----------	----------	----------
Frozen fillets do	[1]	[1]	18,383,269	1,457,461	----------	----------	----------	----------
Salted:								
Green [2] do	31,400	803	----------	----------	----------	----------	----------	----------
Boneless, including absolutely boneless pounds	----------	----------	98,295	19,220	----------	----------	----------	----------
Finnan haddie do	131,400	18,960	931,754	103,793	[1]	[1]	----------	----------

[1] This item has been included under "Unclassified products."
[2] This item is usually an intermediate product and although included in the total, may also be shown in its final stage of processing in this or another State.

Industries related to the fisheries of the New England States, 1933—Continued

PRODUCTS MANUFACTURED—Continued

Item	Maine		Massachusetts		Rhode Island		Connecticut	
BY MANUFACTURING ESTABLISHMENTS—continued								
Hake:	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Fresh sticks.....pounds	200,630	$29,454						
Fresh fillets.....do	64,285	7,305	1,013,615	$85,706				
Frozen fillets.....do	(1)	(1)	27,850	2,161				
Salted:								
Green [2].....do	334,123	10,069	(1)	(1)				
Dry.....do	(1)	(1)	271,172	8,723				
Halibut, fresh fillets.....do			6,659	1,502				
Herring, sea:								
Salted, round.....do	560,700	11,439	(1)	(1)				
Smoked:								
Bloaters:								
Soft.....do	286,662	10,954	585,332	52,782				
Hard.....do	259,830	6,952	(1)	(1)				
Boneless.....do	1,953,365	187,020						
Lengthwise.....do	114,915	9,456						
Medium-scaled do	168,370	14,247	(1)	(1)				
Kippered.....do	(1)	(1)	169,505	17,131				
Canned "sardines" standard cases	980,906	2,397,348						
Scrap, green.....tons	193	507						
Meal.....do	898	24,601						
Oil.....gallons	69,391	7,963						
Mackerel:								
Fresh fillets.....pounds			21,065	3,343				
Salted:								
Fillets.....do	(1)	(1)	1,767,746	133,250				
Split.....do	84,420	2,711	1,285,360	91,823				
Pollock:								
Fresh fillets.....do			403,389	32,107				
Frozen fillets.....do			1,091,401	65,147				
Salted:								
Green [2].....do	89,055	1,824	(1)	(1)				
Dry.....do	42,387	2,004	941,442	37,115				
Wolffish, fresh fillets.....do			85,439	6,262				
Crab meat, packaged, fresh-cooked.....pounds	67,441	33,571	151,087	62,979	(1)	(1)		
Lobster meat, packaged, fresh-cooked.....pounds			79,020	86,420				
Clams, hard, fresh-shucked gallons					2,660	$4,815	(1)	(1)
Clams, soft:								
Fresh-shucked.....do					12,145	12,083		
Canned:								
Whole standard cases	76,698	248,190						
Chowder.....do	36,567	94,452	(1)	(1)				
Juice and bouillon standard cases	19,441	44,157						
Marine-shell products, buttons.....gross	(1)	(1)	(1)	(1)			1,017,225	$635,213
Oysters, fresh-shucked gallons					301,942	514,470	175,313	313,445
Unclassified products:								
Fillets, fresh and frozen pounds	[3] 7,673	[3] 1,310	[4] 1,637,522	[4] 136,046	(5)	(5)		
Salted.....do	[6] 31,363	[6] 2,639	[7] 1,601,189	[7] 103,216				
Smoked.....do	[8] 251,757	[8] 25,587	[9] 764,708	[9] 151,769	(5)	(5)	(5)	(5)

[1] This item has been included under "Unclassified products."

[2] This item is usually an intermediate product and although included in the total, may also be shown its final stage of processing in this or another State.

[3] Includes frozen fillets of cod, cusk, flounders, haddock, and hake.

[4] Includes pandressed flounders, fresh steaks of cod, cusk, and pollock; frozen swordfish steaks; frozen whiting sticks; and frozen fillets of halibut, mackerel, rosefish, salmon, and wolffish.

[5] This item is included with miscellaneous.

[6] Includes dry-salted cusk, haddock, and hake; boneless cusk and hake; and salted sea herring and mackerel fillets.

[7] Includes green-salted cusk, hake, and pollock; dry-salted cod, cusk, haddock, and tongues; boneless hake; salted alewives, tight-pack; and salted sea herring, round and split.

[8] Includes finnan cod; smoked cusk, haddock, and hake fillets; kippered herring; and spiced sea herring.

[9] Includes smoked alewives, butterfish, carp, flounders, halibut, lake trout, mackerel, salmon, shad, and whitefish; smoked cusk, haddock, and hake fillets; hard smoked sea herring, bloaters, and medium scaled; spiced sea herring; and smoked and spiced salmon.

Industries related to the fisheries of the New England States, 1933—Continued

PRODUCTS MANUFACTURED—Continued

Item	Maine		Massachusetts		Rhode Island		Connecticut	
BY MANUFACTURING ESTABLISHMENTS—continued								
Unclassified products—Con.								
Canned:								
Fish cakes, balls, etc.	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
standard cases	5,469	$19,736	59,605	$424,318				
Fish flakes ....do....	[10]	[10]	2,183	18,489				
Other ....do....	[11] 17,989	[11] 137,795	[12] 34,186	[12] 131,958				
Meal, ground fish ..tons..	430	16,080	8,653	386,017				
Miscellaneous		[13] 196,892		[14] 838,958		[15]233,771		[16]$147,213
Total		3,754,341		8,706,923		765,139		1,095,871
BY FISHERMEN								
Alewives:								
Corned ....pounds..			80,000	4,800				
Salted, tight-pack ..do....	263,100	439	420,000	12,600				
Smoked ....do....	165,085	4,848	12,000	600				
Cod, salted:								
Green [2] ....do....			403,778	11,087				
Dry ....do....	5,860	226						
Cusk, dry-salted ....do....	620	11	2,714	52				
Haddock, green-salted [2] do....			14,365	288				
Hake, green-salted [2] ...do....			3,030	31				
Hake, dry-salted ....do....	4,090	77						
Halibut, green-salted ..do....			2,115	97				
Mackerel, salted, split ..do....	600	45	25,800	817				
Pollock, green-salted [2] ..do....			90	1				
Crab meat, packaged, fresh-cooked ....pounds..	3,459	1,558	5,000	2,500	1,200	480		
Clams, razor, fresh-shucked gallons..			36,078	17,729				
Clams, soft:								
Fresh-shucked ....do....	70,281	48,225	19,000	24,000	50	75	500	1,000
Steamed ....pounds..	161,887	11,279						
Clams, surf or skimmer, fresh-shucked ....gallons..			5,922	4,050				
Oysters, fresh-shucked ..do....							2,840	4,680
Scallops, bay, fresh-shucked gallons..			55,468	197,520	7,181	29,247	900	3,600
Scallops, sea, fresh-shucked gallons..	27,151	56,242	114,341	115,031				
Total		122,950		391,203		29,802		9,280
Grand total		3,877,291		9,098,126		794,941		1,105,151

[2] This item is usually an intermediate product and although included in the total, may also be shown its final stage of processing in this or another State.

[10] This item is included with other canned fishery products.

[11] Includes canned finnan haddie, fish flakes, and mackerel.

[12] Includes canned finnan haddie; haddock chowder; mackerel; hard and soft clam chowder; dog food; ground fish roe; and rat bait.

[13] Includes dry-scrap from herring; clam meal; marine shell buttons; and pearl essence.

[14] Includes dry-scrap from groundfish; glue; isinglass; and marine and fresh-water shell products.

[15] Includes packaged fresh-cooked crab meat; fresh-shucked bay scallops; finnan haddie; canned hard clam chowder and oyster puree; oyster-shell products; and marine-shell novelties.

[16] Includes fresh-shucked hard clams; smoked butterfish, carp, mackerel, paddlefish or spoonbill cat, salmon, and whitefish; and marine-shell novelties.

NOTE.—The total value of manufact ured products for the New England States was as follows: By manufacturing establishments, $14,322,274; and by fishermen, $553,235. Some of the above products may have been manufactured from products im ported from another State or country; therefore they cannot be correlated directly with the catch within the State. Of the total number of persons engaged in the preparation of fishermen's manufactured products, 2,119 have also been included as fishermen and 45 of the persons shown on transporting craft have also been included as fishermen. This should be considered when computing the total number of persons in the fishery industries exclusive of duplication.

MAINE

Fisheries of Maine, 1933

OPERATING UNITS: BY GEAR

Item	Purse seines		Haul seines	Gill nets		Lines		
	Mackerel	Other		Anchor	Drift	Hand	Trawl	Trot with hooks
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	86	65	-----	52	8	12	187	-----
On boats and shore:								
Regular	36	118	54	104	39	210	519	-----
Casual	-----	-----	8	70	4	829	32	3
Total	122	183	62	226	51	1,051	738	3
Vessels:								
Motor	16	14	-----	11	2	6	18	-----
Net tonnage	145	155	-----	95	23	45	321	-----
Sail	-----	1	-----	-----	-----	-----	-----	-----
Net tonnage	-----	47	-----	-----	-----	-----	-----	-----
Total vessels	16	15	-----	11	2	6	18	-----
Total net tonnage	145	202	-----	95	23	45	321	-----
Boats:								
Motor	9	36	30	77	34	176	411	-----
Other	9	36	28	45	2	7	12	3
Accessory boats	12	11	-----	2	3	-----	80	-----
Apparatus:								
Number	25	51	31	1,736	709	5,089	34,134	16
Length yards	6,648	7,040	3,100	-----	-----	-----	-----	-----
Square yards	-----	-----	-----	556,491	230,396	-----	-----	-----
Hooks, baits or snoods	-----	-----	-----	-----	-----	5,259	1,155,574	1,600

Item	Pound nets	Floating traps	Weirs	Fyke nets	Dip nets	Bag nets	Pocket nets	Otter trawls	Box traps
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	-----	-----	-----	-----	-----	-----	-----	50	-----
On boats and shore:									
Regular	3	19	172	2	-----	7	-----	73	-----
Casual	-----	2	96	12	124	73	1	2	10
Total	3	21	268	14	124	80	1	125	10
Vessels:									
Motor	-----	-----	-----	-----	-----	-----	-----	13	-----
Net tonnage	-----	-----	-----	-----	-----	-----	-----	130	-----
Boats:									
Motor	3	16	1	-----	-----	-----	-----	37	-----
Other	-----	2	185	12	-----	9	-----	-----	4
Apparatus:									
Number	3	21	213	56	124	112	2	50	13
Yards at mouth	-----	-----	-----	-----	-----	-----	-----	1,235	-----

Fisheries of Maine, 1933—Continued

OPERATING UNITS: By gear—Continued

Item	Pots			Harpoons	Spears	Dredges, scallop	Hoes	By hand	Total, exclusive of duplication
	Crab	Eel	Lobster						
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels			6	78		43			443
On boats and shore:									
Regular	43	3	2,426	46		230	999	28	3,748
Casual	14	13	36	6	26	2	606	22	1,841
Total	57	16	2,468	130	26	275	1,605	50	6,032
Vessels:									
Motor			4	16		6			73
Net tonnage			23	314		69			856
Sail									1
Net tonnage									47
Total vessels			4	16		6			74
Total net tonnage			23	314		69			903
Boats:									
Motor	22		1,794	27		140	29		2,342
Other	34	15	537		21		715	9	1,396
Accessory boats				64					172
Apparatus:									
Number	2,296	222	180,439	43	26	155	1,605		
Yards at mouth						231			

CATCH: By gear

Species	Purse seines				Haul seines		Gill nets			
	Mackerel		Other				Anchor		Drift	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	199,453	$1,910	103,100	$507			47,000	$400		
Bluefish									85	$11
Butterfish	17,936	764	6,630	248			20	1	109	7
Cod							4,106,347	73,662		
Cusk							54,442	597		
Flounders							31,497	778		
Grayfish									316	7
Haddock							2,176,218	33,990		
Hake							878,384	8,469		
Halibut							4,660	50		
Herring, sea	176,900	1,251	24,061,530	94,869			17,375	45		
Mackerel	2,105,293	27,965	945,567	8,472			32,882	1,372	345,655	5,835
Pollock	910	3	75,302	377			2,089,751	17,979		
Salmon							5,215	1,150	49	10
Shad	110,272	867	28,790	212			2,537	200		
Sharks							19,945	135	9,725	92
Smelt	19	1			93,789	$7,431	66,496	8,910		
Sturgeon							1,559	112	749	112
Tomcod					611	10				
Tuna or "horse mackerel"							92	2		
Wolffish							3,525	19		
Lobsters							128	25		
Total	2,610,783	32,761	25,220,919	104,685	94,400	7,441	9,538,073	147,896	356,688	6,074

Fisheries of Maine, 1933—Continued

CATCH: By gear—Continued

Species	Lines					
	Hand		Trawl		Trot with hooks	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod	1,108,156	$11,186	3,356,442	$50,546		
Cunners	175	5				
Cusk	8,866	69	1,421,293	16,713		
Eels, common					11,346	$809
Flounders			16,690	229		
Haddock	624,677	14,715	4,777,388	126,526		
Hake	655,961	4,218	4,729,630	47,045		
Halibut	7,143	880	30,406	3,198		
Mackerel	5,198	156	45	6		
Pollock	360,844	2,345	359,756	2,218		
Rosefish			293	2		
Sharks			253	3		
Skates			5,013	85		
Smelt	222,614	24,787	4,394	27		
Wolffish			80,682	423		
Total	3,022,908	58,361	14,792,155	247,021	11,346	809

Species	Pound nets		Floating traps		Weirs	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	8,903	$405	65,872	$3,615	211,450	$468
Butterfish	20,435	186	184,312	1,499	19,213,835	62,975
Herring, sea	76,376	1,296	461,025	7,293	526,566	5,347
Mackerel	1,314	9	20,573	140	1,021	10
Pollock	114	22	4,245	685	13,138	3,756
Salmon	441	6	2,339	17	34,499	531
Shad	1,767	133	8,218	610	7,223	686
Smelt	268	2				
Squid						
Total	109,861	2,057	747,485	14,100	20,107,693	73,773

Species	Pike nets		Dip nets		Bag nets		Pocket nets		Otter trawls	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives			1,442,975	$33,986						
Butterfish									905	$19
Cod									765,349	10,090
Cusk									88,851	563
Eels, common	2,086	$125								
Flounders									1,128,284	26,487
Haddock									1,728,363	40,513
Hake									820,418	6,538
Halibut									7,802	648
Pollock									66,264	333
Rosefish									1,830	12
Salmon			1,895	$366						
Shad									12	1
Smelt			15,902	1,965	109,532	$12,199	1,536	$138		
Suckers	50,516	1,902								
Tomcod	353	29			400	12				
Wolffish									9,440	40
Yellow perch	534	80								
Total	54,091	1,736	1,458,962	36,357	109,932	12,211	1,536	138	4,618,027	85,644

Fisheries of Maine, 1933—Continued

CATCH: By GEAR—Continued

Species	Box traps		Pots						Harpoons	
			Crab		Eel		Lobster			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Eels, common	28,910	$2,512			36,284	$2,661				
Swordfish									323,939	$39,381
Tuna or "horse mackerel"									100,440	2,067
Crabs, hard			449,134	$13,700			52,532	$1,426		
Lobsters			256	64			5,897,301	1,000,005		
Total	28,910	2,512	449,390	13,764	36,284	2,661	5,949,833	1,001,431	424,379	41,448

Species	Spears		Dredges, scallops		Hoes		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Eels, common	23,399	$1,921						
Flounders	2,258	23						
Skates	2,968	30						
Clams:								
Hard, public					11,594	$1,054		
Soft, public					6,548,620	224,005		
Mussels, sea							110,596	$2,534
Periwinkles							15,516	825
Scallops, sea			1,073,172	$145,884				
Bloodworms					642,852	42,724		
Sandworms					618,567	25,980		
Sea urchins							5,845	217
Total	28,625	1,974	1,073,172	145,884	7,821,633	293,763	131,957	3,576

OPERATING UNITS: By COUNTIES

Item	Cumberland	Hancock	Kennebec	Knox	Lincoln	Penobscot	Sagadahoc	Waldo	Washington	York
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:										
On vessels	259	18		78	56				25	7
On boats and shore:										
Regular	887	654		620	433		187	22	752	193
Casual	33	610	168	176	197	15	68	59	453	62
Total	1,179	1,282	168	874	686	15	255	81	1,230	262
Vessels:										
Motor	34	6		16	10				5	2
Net tonnage	499	49		144	86				63	15
Sail									1	
Net tonnage									47	
Total vessels	34	6		16	10				6	2
Total net tonnage	499	49		144	86				110	15
Boats:										
Motor	511	485		439	226		84	8	424	165
Other	217	294	7	129	163	12	67	37	420	50
Accessory boats	139	1		12	14				5	1
Apparatus:										
Purse seines:										
Mackerel	12			3	8					2
Length, yards	3,260			528	2,600					260
Other	10	2		6	23		1		9	
Length, yards	1,760	360		970	2,920		200		830	
Haul seines	30			1						
Length, yards	3,000			100						
Gill nets:										
Anchor	1,069	64		8	140	42	3	20	318	72
Square yards	421,879	18,320		3,122	52,254	3,160	270	2,242	27,948	27,296
Drift	202				5		60			442
Square yards	96,123				233		27,960			106,080

Fisheries of Maine, 1933—Continued

OPERATING UNITS: By counties—Continued

Item	Cumberland	Hancock	Kennebec	Knox	Lincoln	Penobscot	Sagadahoc	Waldo	Washington	York
Apparatus—Continued.	*Number*	*Number*	*Number*	*Number*	*Number*	*Num. ber*	*Number*	*Number*	*Number*	*Number*
Lines:										
Hand	68	1,724	820	993	1,089		275		114	6
Hooks	68	1,777	820	1,075	1,093		275		144	7
Trawl	12,380	2,352		2,310	1,000		1,780	72	2,980	1,260
Hooks	619,000	71,424		115,500	50,000		89,000	3,600	144,050	63,000
Trot with hooks										16
Hooks										1,600
Pound nets	3									
Floating traps	5				3		9	4		
Weirs		84		9	3	13	1	27	76	
Fyke nets		1	38		17					
Dip nets		4		32	6			10	60	12
Bag nets		9				2		41	60	
Pocket nets			2							
Otter trawls	26	17		3	1		2		1	
Yards at mouth	630	430		75	30		45		25	
Box traps		2		6					3	2
Pots:										
Crab	2,271				25					
Eel	21				65	16	18	83	4	15
Lobster	22,089	40,116		37,913	18,813		4,879	125	46,042	10,462
Harpoons	30				1		5			7
Spears		10		2	2		6		3	3
Dredges:										
Scallop	54	53		27	7				14	
Yards at mouth	72	78		55	9				17	
Hoes	339	338		159	202		102	17	410	38

CATCH: By counties

Species	Cumberland		Hancock		Kennebec	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	52,586	$661	192,630	$572		
Butterfish	40,488	2,032				
Cod	5,218,503	96,283	1,120,583	10,571		
Cunners	175	5				
Cusk	1,214,160	14,547	83,411	519		
Eels, common	924	34	8,815	857	2,086	$125
Flounders	560,008	11,115	397,414	11,136		
Grayfish	316	7				
Haddock	4,770,028	101,984	1,326,816	27,835		
Hake	3,966,122	43,870	862,784	4,562		
Halibut	15,2 0	1,255	10,097	992		
Herring, sea	8,170,795	37,583	2,934,984	11,572		
Mackerel	772,889	13,446	105,924	1,271		
Pollock	2,327,787	19,486	68,114	331		
Rosefish	2,063	14				
Salmon	623	124	7,099	2,081		
Shad	5,122	137				
Sharks	22,988	164				
Smelt	107,854	7,957	63,786	8,558	79,584	7,165
Sturgeon	708	68				
Suckers					31,851	955
Swordfish	323,939	39,381				
Tomcod	611	10			953	29
Tuna or "horse mackerel"	65,642	1,282				
Wolffish	70,842	361				
Yellow perch					142	21
Crabs, hard	473,016	14,268				
Lobsters	648,284	116,974	1,393,672	227,273		
Clams:						
Hard, public	9,394	854				
Soft, public	1,487,060	73,240	939,070	23,488		
Mussels, sea	110,596	2,534				
Scallops, sea	50,166	9,062	232,752	53,627		
Squid	203	2				
Bloodworms	136,752	21,468				
Total	30,625,924	630,208	9,747,951	385,245	114,616	8,295

Fisheries of Maine, 1933—Continued

CATCH: BY COUNTIES—Continued

Species	Knox		Lincoln		Penobscot	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	436,240	$1,099	581,440	$2,099		
Butterfish			32,846	1,420		
Cod	695,858	7,607	989,325	9,504		
Cusk	46,181	473	58,533	362		
Eels, common	7,398	550	11,127	801	5,025	$126
Flounders	119,094	3,206	41,944	735		
Haddock	1,358,851	36,037	416,807	7,703		
Hake	791,237	5,134	484,408	2,746		
Halibut	8,681	910	808	81		
Herring, sea	1,982,365	8,694	9,220,728	35,435		
Mackerel	278,311	3,616	2,369,765	23,961		
Pollock	305,209	1,490	86,707	455		
Salmon			2,162	438	1,257	368
Shad	90	2	137,780	1,155		
Sharks			347	3		
Smelt	28,787	3,596	21,350	2,449	7,641	923
Sturgeon			167	11		
Suckers			18,667	547		
Tuna or "horse mackerel"			524	10		
Wolffish			632	4		
Yellow perch			392	59		
Crabs, hard			28,650	858		
Lobsters	1,595,485	267,980	619,488	104,247		
Clams, soft, public	721,465	20,356	681,580	20,908		
Scallops, sea	767,934	77,927	18,900	4,500		
Bloodworms			506,100	21,256		
Sandworms			618,567	25,980		
Sea urchins			3,600	60		
Total	9,143,186	438,677	16,953,344	267,787	13,923	1,417

Species	Sagadahoc		Waldo		Washington		York	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	15,000	$300			326,615	$640	98,567	$1,000
Bluefish							85	11
Butterfish	25,641	1,572					500	35
Cod	409,808	6,377	38,246	$780	620,740	9,782	243,831	4,580
Cusk	87,258	1,181			22,892	199	70,931	1,061
Eels, common	6,991	629	11,600	1,020	12,053	1,104	36,006	2,782
Flounders	28,953	501			28,282	779	2,974	45
Haddock	437,704	10,670	4,210	211	618,140	20,326	373,999	10,978
Hake	414,688	3,998	539	11	216,777	2,132	347,458	3,817
Halibut	1,453	129			7,402	1,230	6,290	179
Herring, sea	468,020	2,879	17,850	128	20,980,246	64,525		
Mackerel	289,448	5,192	72,400	1,034	288,772	2,193	321,598	7,027
Pollock	69,798	457			111,138	924	37,312	271
Salmon	1,073	214	4,560	1,305	7,870	1,739		
Shad	1,449	9			34,460	531		
Sharks	1,565	15					5,023	48
Skates					7,981	115		
Smelt	53,476	6,180	49,704	7,455	116,372	12,400	1,436	144
Sturgeon	749	112					684	33
Tomcod					400	12		
Tuna or "horse mackerel"	19,535	375					14,831	402
Wolffish	11,655	61			1,173	5	9,345	51
Lobsters	133,570	23,809	2,509	602	1,057,423	173,009	447,254	86,200
Clams:								
Hard, public	2,200	200						
Soft, public	754,425	29,625	192,240	12,440	1,687,265	37,551	85,515	6,397
Periwinkles					15,516	825		
Scallops, sea					3,420	768		
Sea urchins					2,245	157		
Total	3,234,459	94,485	393,858	24,986	26,167,182	330,946	2,103,639	125,061

NEW HAMPSHIRE

Fisheries of New Hampshire, 1933 [1]

OPERATING UNITS: BY GEAR

Item	Haul seines	Gill nets, anchor	Lines		Pots, lobster	Bag nets	Total, exclusive of duplication
			Hand	Trawl			
Fishermen, on boats and shore:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Regular	2	2	-------	8	44	-------	48
Casual	-------	-------	29	-------	8	15	52
Total	2	2	29	8	52	15	100
Boats:							
Motor	-------	2	-------	5	32	-------	34
Other	1	-------	-------	-------	16	-------	17
Apparatus:							
Number	1	4	116	260	2,990	30	-------
Length, yards	35	-------	-------	-------	-------	-------	-------
Square yards	-------	2,160	-------	-------	-------	-------	-------
Hooks	-------	-------	116	13,000	-------	-------	-------

CATCH: BY GEAR

Species	Haul seines		Gill nets, anchor		Lines				Pots, lobster		Bag nets	
					Hand		Trawl					
	Lbs.	*Value*	*Lbs.*	*Value*	*Lbs.*	*Value*	*Lbs.*	*Value*	*Lbs.*	*Value*	*Lbs.*	*Value*
Cod	-------	-------	-------	-------	-------	-------	28,602	$858	-------	-------	-------	-------
Cusk	-------	-------	-------	-------	-------	-------	17,161	343	-------	-------	-------	-------
Haddock	-------	-------	-------	-------	-------	-------	60,063	2,703	-------	-------	-------	-------
Hake	-------	-------	-------	-------	-------	-------	168,749	2,531	-------	-------	-------	-------
Herring, sea	2,000	$20	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------
Mackerel	-------	-------	1,050	$53	-------	-------	-------	-------	-------	-------	-------	-------
Pollock	-------	-------	-------	-------	-------	-------	11,441	114	-------	-------	-------	-------
Smelt	-------	-------	-------	-------	9,667	$1,450	-------	-------	-------	-------	4,600	$690
Wolffish	-------	-------	-------	-------	-------	-------	3,142	79	-------	-------	-------	-------
Lobsters	-------	-------	-------	-------	-------	-------	-------	-------	216,929	$48,230	-------	-------
Total	2,000	20	1,050	53	9,667	1,450	289,158	6,628	216,929	48,230	4,600	690

[1] The commercial fisheries of New Hampshire are confined to Rockingham County.

MASSACHUSETTS

Fisheries of Massachusetts, 1933

OPERATING UNITS: BY GEAR

Item	Purse seines		Haul seines	Gill nets			Lines	
	Mackerel	Other		Anchor	Drift	Run-around	Hand	Trawl
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	925	-------	-------	130	533	4	111	1,122
On boats and shore:								
Regular	62	-------	37	14	168	-------	228	590
Casual	-------	6	8	-------	8	-------	72	12
Total	987	6	45	144	709	4	411	1,724
Vessels:								
Motor	83	-------	-------	15	68	1	11	69
Net tonnage	2,729	-------	-------	285	1,553	5	301	3,326
Boats:								
Motor	14	2	4	7	76	-------	176	227
Other	14	4	20	7	58	-------	55	31
Accessory boats	66	-------	-------	7	26	-------	-------	612
Apparatus:								
Number	97	2	15	704	4,105	1	505	47,836
Length, yards	45,720	260	1,655	-------	-------	-------	-------	-------
Square yards	-------	-------	-------	280,655	1,530,960	1,800	-------	-------
Hooks, baits, or snoods	-------	-------	-------	-------	-------	-------	671	2,380,062

Fisheries of Massachussetts, 1933—Continued

OPERATING UNITS: BY GEAR—Continued

Item	Lines—Con. Troll	Pound nets	Floating traps	Weirs	Fyke nets	Dip nets	Push nets	Otter trawls
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels								2,067
On boats and shore:								
Regular	5	129	40	6	11	120		199
Casual		2			7	42	100	
Total	5	131	40	6	18	162	100	2,266
Vessels:								
Steam								13
Net tonnage								2,097
Motor								245
Net tonnage								9,680
Total vessels								258
Total net tonnage								11,777
Boats:								
Motor	5	35	16	2		24		79
Other		57	15	2	6	35	50	
Accessory boats			6					
Apparatus:								
Number	8	86	17	4	24	130	50	366
Yards at mouth								21,084
Hooks, baits, or snoods	8							

Item	Box traps	Pots				Harpoons	Spears
		Crab	Eel	Lobster	Periwinkle or cockle		
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels						632	
On boats and shore:							
Regular	3	25	36	717	22	88	68
Casual		4	15	294			117
Total	3	29	51	1,011	22	720	185
Vessels:							
Steam						1	
Net tonnage						180	
Motor						88	
Net tonnage						3,128	
Total vessels						89	
Total net tonnage						3,308	
Boats:							
Motor		20	27	650	12	37	
Other		2	27	383	8	3	125
Accessory boats						225	
Apparatus:							
Number	3	1,095	1,565	65,147	935	126	185

Fisheries of Massachusetts, 1933—Continued

OPERATING UNITS: By gear—Continued

Item	Dredges			Tongs	Rakes	Forks	Hoes	By hand	Total, exclusive of duplication
	Clam	Oyster	Scallop						
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	5	8	116						3,971
On boats and shore:									
Regular	110	25	391	132	403	452	183	18	2,781
Casual			383	34	251	493	77	8	1,652
Total	115	33	890	166	654	945	260	26	8,404
Vessels:									
Steam									13
Net tonnage									2,097
Motor	2	3	19						365
Net tonnage	17	35	340						13,995
Total vessels	2	3	19						378
Total net tonnage	17	35	340						16,092
Boats:									
Motor	59	12	376	28	45	66			1,478
Other			25	143	604	310	49		1,624
Accessory boats									942
Apparatus:									
Number	63	34	2,038	166	654	945	260		
Yards at mouth	31	44	1,895						

CATCH: By gear

Species	Purse seines				Haul seines	
	Mackerel		Other			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	442,300	$3,711			199,000	$1,990
Bluefish					1,000	100
Butterfish	6,155	390				
Eels, common					90,000	2,700
Herring, sea	11,500	91			5,000	50
King whiting or "kingfish"	13,000	390				
Launce			21,000	$420		
Mackerel	27,133,285	648,853			20,000	600
Rosefish	2,175	17				
Shad	12,420	188			22,500	1,125
Sharks	84	1				
Striped bass					4,500	675
Tuna or "horse mackerel"	301	30				
White perch					48,500	7,100
Total	27,621,220	653,671	21,000	420	390,500	14,340

Species	Gill nets					
	Anchor		Drift		Runaround	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	25	$1				
Bluefish			21,400	$2,860	22,000	$1,760
Butterfish	300	15	500	25		
Cod	2,993,283	69,964	92,000	1,600		
Flounders	6,665	275				
Grayfish			4,000	40		
Haddock	766,330	17,157	11,500	300		
Hake	279,990	4,796				
Herring, sea			5,000	50		
Mackerel			2,253,705	68,286		
Pollock	2,060,935	27,367				
Rosefish	55	1				
Sea bass					250	15
Shad	1,242	57	21,200	344		
Sharks	1,490	45				
Wolffish	12,820	139				
Total	6,123,135	119,817	2,409,305	73,505	22,250	1,775

Fisheries of Massachusetts, 1933—Continued

CATCH: BY GEAR—Continued

Species	Lines						Pound nets		Floating traps	
	Hand		Trawl		Troll					
	Lb.	*Value*	*Lb.*	*Value*	*Lb.*	*Value*	*Lb.*	*Value*	*Lb.*	*Value*
Alewives							27,906	$284	8,825	$88
Amberjack							2,275	68		
Bluefish	359,000	$35,248			1,500	$250	19,691	2,253	475	51
Bonito							5,204	232	18	1
Butterfish	10,010	501	100	$4			715,700	34,081	33,948	1,697
Cod	2,025,138	39,389	32,812,743	601,079			3,225	84	51,420	1,286
Cusk	46,753	564	4,004,062	47,262						
Eels:										
Common	1,150	72					7,179	431		
Conger							597	30		
Flounders	18,000	808	381,325	12,437			18,486	740	210	8
Frigate mackerel							52,239	2,090		
Grayfish							5,580	56		
Haddock	279,405	6,667	30,481,801	756,794						
Hake	25,280	323	4,401,359	70,510						
Halibut	2,613	306	1,863,422	176,926						
Herring, sea							1,141,890	12,136	149,045	1,640
Mackerel	70,000	2,100					3,542,314	46,604	1,729,884	21,342
Menhaden							334	4		
Mullet							10	1		
Pollock	300,457	2,118	1,597,967	17,019			108,610	987	9,416	86
Rosefish			6,800	136			40	1		
Salmon									45	9
Scup or porgy	226,300	4,814					110,783	3,398	3,049	92
Sea bass	90,500	3,825					2,172	110		
Shad							5,099	257	107	5
Sharks	60	1	342	3			27,264	117	30	1
Skates			20,000	200			2,840	29		
Skipper or billfish							4,110	41		
Spot							985	30		
Squeteagues or "sea trout", spotted							2,048	204		
Striped bass	3,200	320					240	36		
Sturgeon							825	148	64	10
Tautog	123,700	4,820					46,085	1,803	155	6
Tuna or "horse mackerel"							251,976	13,671	1,795	180
White perch							286	9		
Whiting							6,413,067	64,131	1,252,695	12,527
Wolffish	7,397	146	408,150	5,813						
Lobsters							11	2		
Squid							482,145	6,081	33,201	664
Total	3,588,963	102,022	75,978,071	1,688,183	1,500	250	13,001,216	190,149	3,274,382	39,693

Species	Weirs		Fyke nets		Dip nets		Push nets		Otter trawls	
	Lb.	*Value*	*Lb.*	*Value*	*Lb.*	*Value*	*Lb.*	*Value*	*Lb.*	*Value*
Alewives					235,000	$2,125				
Bluefish									4,974	$360
Butterfish	26,165	$1,308							158,707	7,884
Cod	4,117	107							51,228,435	974,951
Croaker									2,491,145	35,716
Cunners									152	2
Cusk									458,189	5,940
Drum:										
Black									32	1
Red									1,755	32
Eels:										
Common			15,500	$930						
Conger									38,020	703
Flounders	225	9							26,762,516	864,324
Frigate mackerel	16,560	662								
Grayfish									2,932	36
Haddock									119,141,440	2,644,934
Hake									3,350,049	58,062
Halibut									535,257	53,237
Herring, sea	133,350	1,334			2,125,000	23,375			2,175	108
Herring smelt									11,648	313
King whiting or "kingfish"									25,296	645
Mackerel	800,205	8,002			50,000	1,500			11,970	821
Pigfish									3,832	73

Fisheries of Massachusetts, 1933—Continued

CATCH: BY GEAR—Continued

Species	Weirs		Fyke nets		Dip nets		Push nets		Otter trawls	
	Lb.	*Value*	*Lb.*	*Value*	*Lb.*	*Value*	*Lb.*	*Value*	*Lb.*	*Value*
Pollock	330	$3							7,914,083	$92,496
Rosefish									253,185	2,672
Scup or porgy	5,100	153							1,788,178	41,611
Sea bass									3,830,167	113,371
Sea robin									400	8
Shad	75	4							108	6
Sharks									4,878	119
Sheepshead									9	1
Skates									14,416	250
Spot									31,758	346
Squeteagues or "sea trout", gray									286,547	8,543
Striped bass					12,000	$2,900			17	1
Sturgeon									4,241	481
Swordfish									90	3
Tautog	2,915	117							688	20
Tuna or "horse mackerel"	2,100	105								
Whiting	669,150	6,692							342,830	5,298
Wolffish									1,668,202	25,236
Lobsters									1,719	163
Shrimp					300	125			40,900	2,045
Scallops:										
Bay							18,000	$7,000		
Sea									810	149
Squid	33,020	330							22,170	489
Total	1,693,312	18,826	15,500	$930	2,422,300	30,025	18,000	7,000	220,433,920	4,941,450

Species	Box traps		Pots							
			Crab		Eel		Lobster		Periwinkle and Cockle	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	10,000	$200								
Eels, common					57,950	$3,477				
Crabs, hard			3,273,887	$15,843			1,832,628	$8,952		
Lobsters							1,926,886	381,484		
Periwinkles and cockles									62,100	$5,950
Total	10,000	200	3,273,887	15,843	57,950	3,477	3,759,514	390,436	62,100	5,950

Species	Harpoons		Spears		Dredges					
					Clam		Oyster		Scallop	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Eels, common			50,500	$3,117						
Swordfish	2,643,422	$324,814								
Tuna or "horse mackerel"	200	30								
Clams:										
Hard, public					471,900	$51,674				
Surf or skimmer					3,240	325				
Mussels, sea					30,000	3,000				
Oysters:										
Market, private, spring							29,762	$9,640		
Market, private, fall							43,198	13,292		
Scallops:										
Bay									481,575	$173,795
Sea									1,028,287	115,195
Total	2,643,622	324,844	50,500	3,117	505,140	54,999	72,960	22,932	1,509,862	288,990

Fisheries of Massachusetts, 1933—Continued

CATCH: BY GEAR—Continued

Species	Tongs		Rakes		Forks		Hoes		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Periwinkles and cockles									3,600	$400
Clams:										
Hard, public	370,750	$46,487	890,175	$113,687	5,100	$600	28,600	$2,600		
Hard, private	2,200	400								
Razor					54,400	2,124	304,000	13,750		
Soft, public					2,660,090	228,744	176,000	16,725		
Surf or skimmer			2,700	150	42,500	2,500			10,800	600
Oysters:										
Market, private, spring	45,399	16,040								
Market, private, fall	62,250	21,065								
Scallops, bay			540	180						
Irish moss			11,650	582						
Bloodworms					17,759	28,000				
Sandworms					21,656	19,500				
Total	480,599	83,992	905,065	114,599	2,801,505	281,468	508,600	33,075	14,400	1,000

OPERATING UNITS: BY COUNTIES

Item	Barnstable	Bristol	Dukes	Essex	Nantucket	Norfolk	Plymouth	Suffolk
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:								
On vessels	158	225	59	1,736	95			1,698
On boats and shore:								
Regular	761	248	241	633	62	71	251	514
Casual	266	91	330	372	150	159	182	102
Total	1,185	564	630	2,741	307	230	433	2,314
Vessels:								
Steam								13
Net tonnage								2,097
Motor	30	31	10	132	20			142
Net tonnage	363	786	137	5,519	256			6,934
Total vessels	30	31	10	132	20			155
Total net tonnage	363	786	137	5,519	256			9,031
Boats:								
Motor	341	148	197	322	105	46	183	136
Other	479	152	222	406	50	26	242	47
Accessory boats	48	32	22	530	2			308
Apparatus:								
Purse seines:								
Mackerel	4	2		62				29
Length, yards	1,720	240		30,140				13,620
Other	2							
Length, yards	260							
Haul seines	2		1	5	6		1	
Length, yards	55		400	475	700		25	
Gill nets:								
Anchor				704				
Square yards				280,655				
Drift	1,070	45	45	2,070	5	6	14	850
Square yards	304,360	18,900	24,500	824,740	2,250	1,520	6,240	348,450
Runaround	1							
Square yards	1,800							
Lines:								
Hand	105	104	39	170	30	10	10	37
Hooks	135	208	39	194	30	10	10	45
Trawl	3,640	200	280	22,067	60		480	21,109
Hooks	186,500	7,200	11,800	1,095,124	2,100		17,280	1,060,058
Troll	8							
Hooks	8							
Pound nets	62	14	7		3			
Floating traps	4			13				
Weirs	4							
Fyke nets	20	4						
Dip nets	15			66		2	17	30
Push nets			50					
Otter trawls	52	32	22	72	22			166
Yards at mouth	1,338	1,063	573	2,247	640			15,223
Box traps							3	
Pots:								
Crab				45		204	41	805
Eel	495	118	320	115	450		67	
Lobster	6,557	4,882	12,743	17,479	1,116	2,903	13,966	5,501
Periwinkle and cockle	580			200			155	

Fisheries of Massachusetts, 1933—Continued

OPERATING UNITS: BY COUNTIES—Continued

Item	Barnstable	Bristol	Dukes	Essex	Nantucket	Norfolk	Plymouth	Suffolk
Apparatus—Continued.	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Harpoons	17	25	18	49	3			14
Spears	76	19	6	20	12	14	38	
Dredges:								
Clam	25	16	6		9		3	4
Yards at mouth	10	7	3		5		2	4
Oyster	14						20	
Yards at mouth	24						20	
Scallop	276	197	830	2	638		95	
Yards at mouth	258	212	738	7	595		85	
Tongs	46	76			15		29	
Rakes	358	65	109		35		87	
Forks	26	6		579		160	11	163
Hoes	129					30	101	

CATCH: BY COUNTIES

Species	Barnstable		Bristol		Dukes		Essex	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	314,000	$2,540	4,506	$50	4,400	$44	396,350	$3,568
Amberjack	2,275	68						
Bluefish	329,795	33,507	6,306	884	23,065	2,911	3,923	287
Bonito	1,183	40	526	21	3,178	159	18	1
Butterfish	597,693	28,256	41,395	2,093	100,482	5,025	112,644	5,105
Cod	2,167,492	47,329	2,075,929	37,125	120,002	2,968	22,437,126	421,879
Croaker	17,512	323	48,215	1,123	468	8	2,105,090	29,324
Cunners							152	2
Cusk	142,772	1,275	1,208	19	345	3	1,767,972	21,176
Drum:								
Black							32	1
Red			175	2			1,580	30
Eels:								
Common	67,230	4,034	17,299	1,063	16,200	972	101,500	3,345
Conger	70	1	3,216	83			26,772	514
Flounders	3,022,419	67,661	5,636,867	186,812	954,170	24,753	3,432,129	122,896
Frigate mackerel	68,799	2,752						
Grayfish	9,580	96					2,932	36
Haddock	2,046,138	48,745	6,862,729	169,075	31,740	808	22,444,944	527,084
Hake	276,526	3,088	60,624	907			2,699,382	42,669
Halibut	8,407	1,004	24,408	2,332			1,618,750	154,589
Herring, sea	1,353,786	14,255	27,054	271	200	2	485,745	7,113
King whiting or "kingfish"	732	32	300	8	115	2	34,981	937
Launce	21,000	420						
Mackerel	6,068,862	93,575	115,267	2,395	90,700	1,949	21,160,924	499,090
Menhaden	159	2	175	2				
Mullet			10	1				
Pigfish							3,654	68
Pollock	259,680	2,448	22,927	284	220	1	4,065,136	48,730
Rosefish	6,500	130			40	1	33,830	299
Salmon							45	9
Scup or porgy	43,143	1,209	305,821	6,302	70,635	2,119	1,401,941	33,881
Sea bass	37,116	1,232	187,741	6,092	6,215	311	3,108,326	88,458
Sea robin			400	8				
Shad	4,877	246	106	5	19	1	57,265	1,716
Sharks	516	5	26,748	112			4,070	92
Sheepshead							9	1
Skates	1,150	12	2,340	24	500	5	108	2
Skipper or "billfish"	4,110	41						
Smelt							100	5
Spot			985	30			16,265	202
Squeteagues or "sea trout":								
Gray	1,021	49	4,119	192			216,709	6,507
Spotted	97	9	1,644	164	307	31		
Striped bass	4,500	675	240	36			12,017	2,901
Sturgeon	541	92	218	15	64	8	2,602	337
Swordfish	276,476	25,864	269,473	25,194	266,837	24,700	1,533,102	210,700
Tautog	34,757	1,242	119,732	4,770	8,211	328	803	25
Tuna or "horse mackerel"	254,076	13,776					2,296	240
White perch			286	9	3,500	350		
Whiting	7,552,908	75,533	309	4			795,020	8,240
Wolffish	96,640	909	16,687	216			262,675	4,117
Crabs, hard							477,187	3,013
Lobsters	124,432	31,954	85,159	14,648	225,987	43,047	680,241	130,866
Shrimp	300	125			40,900	2,045		
Periwinkles and cockles	32,400	3,200					6,300	700

Fisheries of Massachusetts, 1933—Continued

CATCH: BY COUNTIES—Continued

Species	Barnstable		Bristol		Dukes		Essex	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Clams:								
Hard, public	704,385	$88,602	540,590	$84,685	154,000	$16,050		
Hard, private	2,200	400						
Razor	240,000	11,250					54,400	$2,124
Soft, public	77,590	9,360	3,740	440			1,892,200	173,157
Surf or skimmer	3,240	325			2,700	150	42,500	2,500
Oysters:								
Market, private, spring	65,963	22,880						
Market, private, fall	85,738	28,350						
Scallops:								
Bay	66,945	21,740	14,310	5,565	248,850	96,850	52,854	5,891
Sea	170,594	20,619	528,157	57,937	175,050	19,450	50,222	1,000
Squid	457,746	5,718	44,370	563	13,039	130	2,544	4,000
Bloodworms							4,778	4,300
Sandworms								
Total	27,125,981	717,057	17,152,311	591,561	2,562,139	245,181	93,612,148	2,573,727

Species	Nantucket		Norfolk		Plymouth		Suffolk	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives			20,000	$200	175,000	$1,935	8,800	$62
Bluefish	31,379	$3,155					35,569	2,138
Bonito	317	12						
Butterfish	21,561	983					77,810	4,443
Cod	916,378	16,458	13,800	360	115,000	3,000	61,364,634	1,159,341
Croaker							319,860	4,938
Cusk							2,596,707	31,293
Eels:								
Common	3,000	270	2,150	132	14,900	911		
Conger	1,351	15					7,208	120
Flounders	3,217,196	95,856	3,000	150	4,600	230	10,867,046	380,243
Haddock	1,608,930	40,965			17,250	600	117,668,745	2,638,575
Hake	16,519	257					5,003,627	86,770
Halibut							749,727	72,544
Herring, sea					200,000	2,000	1,506,175	15,143
Herring smelt							2,630	74
King whiting or "kingfish"							2,168	56
Mackerel	17,135	514	6,000	180	21,000	480	8,131,475	199,935
Pigfish							178	5
Pollock	11,154	204			1,650	15	7,631,031	88,394
Rosefish	500	5					221,385	2,392
Scup or porgy	51,223	991			1,500	45	259,147	5,521
Sea bass	96,651	2,797					487,040	18,401
Shad	172	9					312	9
Sharks							2,814	78
Skates							33,158	436
Smelt							8,918	254
Spot							15,493	144
Squeteagues or "sea trout", gray	142	11					64,556	1,784
Striped bass	3,200	320						
Sturgeon	284	56					1,421	131
Swordfish	83,722	6,976					213,902	31,383
Tautog					10,000	400	40	1
White perch	45,000	6,750						
Whiting							329,505	4,871
Wolffish							1,720,567	26,092
Crabs, hard			117,050	1,075	145,037	1,072	4,367,241	19,635
Lobsters	8,358	2,356	114,137	23,993	551,702	109,296	138,600	25,439
Periwinkles and cockles					27,000	2,450		
Clams:								
Hard, public	200,750	24,662	28,600	2,600	138,200	18,449		
Razor					64,000	2,500		
Soft, public			365,500	21,500	113,900	9,325	383,250	31,687
Surf or skimmer					10,800	600		
Mussels, sea							30,000	3,000
Oysters:								
Market, private, spring					9,198	2,800		
Market, private, fall					19,710	6,000		
Scallops:								
Bay	165,600	55,200			4,410	1,620		
Sea	102,060	11,340					382	77
Squid	100	2					5,059	151
Irish moss					11,650	582		
Bloodworms			11,400	18,000			3,815	6,000
Sandworms			11,100	10,000			5,778	5,200
Total	6,602,682	270,164	692,737	78,190	1,656,507	164,310	224,265,773	4,866,790

RHODE ISLAND

Fisheries of Rhode Island, 1933

OPERATING UNITS: By GEAR

Item	Purse seines		Haul seines	Gill nets, drift	Lines				Pounds nets
	Mackerel	Menhaden			Hand	Trawl	Troll	Trot with hooks	
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	11	20		3	28	4			13
On boats and shore:									
Regular			28	3	77	24	22		35
Casual			37	2	35		2	1	16
Total	11	20	65	8	140	28	24	1	64
Vessels:									
Steam		1							
Net tonnage		45							
Motor	2			1	13	2			3
Net tonnage	12			13	98	17			29
Total vessels	2	1		1	13	2			3
Total net tonnage	12	45		13	98	17			29
Boats:									
Motor				2	83	12	22		1
Other			26	1	13			1	38
Accessory boats	1	2							7
Apparatus:									
Number	2	1	20	44	248	51	48	1	64
Length, yards	420	400	2,512						
Square yards				17,800					
Hooks, baits or snoods					319	24,700	48	200	

Item	Floating traps	Fyke nets	Otter trawls	Pots			Harpoons	Spears
				Eel	Lobster	Periwinkle and cockle		
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	111		103		21		72	
On boats and shore:								
Regular	34	4	34	21	162	23	26	3
Casual	1	3	6	19	128	12	2	10
Total	146	7	143	40	311	35	100	13
Vessels:								
Steam	4		5					
Net tonnage	45		55					
Motor	7		33		10		22	
Net tonnage	77		292		69		185	
Total vessels	11		38		10		22	
Total net tonnage	122		347		69		185	
Boats:								
Motor	1	4	23	21	203	27	14	
Other	21	1		13	26			12
Accessory boats	37						27	
Apparatus:								
Number	40	37	61	1,698	53,672	1,585	36	13
Yards at mouth			1,635					

Fisheries of Rhode Island, 1933—Continued

OPERATING UNITS: By gear—Continued

Item	Dredges				Tongs	Rakes	Forks	Hoes	By hand	Total, exclusive of duplication
	Clam	Mussel	Oyster	Scallop						
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:										
On vessels	7		63							328
On boats and shore:										
Regular	17	1		78	107	25	4	3	12	371
Casual	5			34	436	50	4	23	16	677
Total	29	1	63	112	543	75	8	26	28	1,376
Vessels:										
Steam			2							8
Net tonnage			101							201
Motor	2		13							65
Net tonnage	18		249							695
Total vessels	2		15							73
Total net tonnage	18		350							896
Boats:										
Motor	10	1		70	162	24	1	1	1	433
Other					365	47	6	11		506
Accessory boats										74
Apparatus:										
Number	12	1	30	374	543	75	8	26		
Yards at mouth	9	1	45	324						

CATCH: By gear

Species	Purse seines				Haul seines		Gill nets, drift	
	Mackerel		Menhaden					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives					160,000	$1,600		
Bluefish					16,250	1,040	19,375	$1,240
Eels, common					16,599	1,280		
Herring, sea	30,000	$300			162,000	1,620		
Mackerel	37,500	1,350					30,000	600
Menhaden			1,000,000	$2,500				
Mullet					6,000	180		
Smelt					2,000	200		
Squeteagues or "sea trout", gray					8,750	560	2,500	160
Striped bass					2,800	280		
Tautog					3,000	90		
Thimble-eyed mackerel	45,000	675						
Total	112,500	2,325	1,000,000	2,500	377,399	6,850	51,875	2,000

Species	Lines							
	Hand		Trawl		Troll		Trot with hooks	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bluefish	2,875	$184			34,500	$2,048		
Cod	610,425	10,682	164,500	$2,693				
Eels, common	3,638	295					2,400	$360
Flounders	4,000	320						
Haddock			6,250	250				
Mackerel					4,300	129		
Sea bass	13,350	1,003						
Squeteagues or "sea trout", gray	1,750	112						
Striped bass	2,900	290						
Tautog	125,550	3,895						
Thimble-eyed mackerel	460	9						
Tuna or "horse mackerel"					21,467	483		
Total	764,948	16,790	170,750	2,943	60,267	2,660	2,400	360

Fisheries of Rhode Island, 1933—Continued

CATCH: BY GEAR—Continued

Species	Pound nets		Floating traps		Fyke nets		Otter trawls	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	16,000	$315						
Bluefish	13,969	660	107,417	$5,634				
Bonito	5,938	208	40,334	1,715				
Butterfish	178,366	5,495	308,156	10,709				
Cod	133	3	128,183	3,277			5,000	$80
Crevalle			2,200	81				
Cunners			7,440	111			34,000	340
Eels:								
Common	49,994	3,761			2,700	$200		
Conger	643	23	315	6				
Flounders	69,110	2,324	301,242	10,139	1,225	37	2,877,500	78,110
Frigate mackerel	2,640	26	54,014	1,583				
Grayfish			600	12				
Haddock			718	28			17,000	425
Hake	171	3	9,000	180				
Herring, sea	212,746	3,327	109,860	1,135			222,400	5,085
Hickory shad	2,008	20	300	3				
King whiting or "kingfish"	1,115	39	325	14				
Mackerel	171,363	5,568	476,126	14,490				
Menhaden	120	1	3,396	34				
Mullet	11	1	2,800	140				
Pollock	785	21	16,457	430				
Scup or porgy	123,578	2,337	1,878,853	34,783			17,000	313
Sea bass	2,938	108	31,977	1,432				
Sea robin	4,175	41	69,110	646			500	10
Shad	3,174	398	7,586	740				
Sharks			1,947	28				
Skates			8,410	83			168,000	1,245
Skipper or "billfish"			730	14				
Smelt	2,250	225						
Spot			45	1				
Squeteagues or "sea trout", gray	18,686	1,136	31,624	2,044				
Striped bass	2,110	99	31,422	1,749				
Sturgeon			449	37				
Swordfish			352	14				
Tautog	98,371	2,314	33,902	914	6,300	189		
Thimble-eyed mackerel	18,192	637	14,055	212				
Tomcod	200	1						
Tuna or "horse mackerel"	2,018	63	21,092	938				
White perch	711	39	150	3				
Whiting	162,567	1,626	338,664	3,905			223,275	2,095
Crabs, king	6,574	18						
Periwinkles and cockles							272	4
Squid	52,259	1,189	396,867	8,697			52,725	1,732
Total	1,222,915	32,026	4,436,162	105,961	10,225	426	3,617,672	89,439

Species	Pots						Harpoons		Spears	
	Eel		Lobster		Periwinkle and cockle					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Eels, common	63,627	$5,466							6,653	$751
Swordfish							259,358	$23,785		
Crabs, hard			20,478	$369						
Lobsters			708,095	113,933						
Periwinkles and cockles					109,170	$5,197				
Total	63,627	5,466	728,573	114,302	109,170	5,197	259,358	23,785	6,653	751

Species	Dredges							
	Clam		Mussel		Oyster		Scallop	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Clams:								
Hard, public	75,625	$8,594						
Hard, private	24,200	3,300			64,845	$8,949		
Mussels, sea			650	$38				
Oysters:								
Market, private, spring					1,525,104	211,688		
Market, private, fall					1,526,635	211,807		
Scallops, bay							63,120	$12,943
Total	99,825	11,894	650	38	3,116,584	432,444	63,120	12,943

Fisheries of Rhode Island, 1933—Continued

CATCH: BY GEAR—Continued

Species	Tongs		Rakes		Forks		Hoes		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Clams:										
Hard, public	858,560	$100,554	128,601	$15,036			4,950	$713	1,155	$150
Soft, public					10,320	$1,578	22,064	2,636		
Oysters:										
Market, public, spring			26,880	3,840						
Market, public, fall	7,242	1,051	27,699	3,957					3,503	499
Market, private, spring	280	60								
Market, private, fall	420	90								
Total	866,502	101,755	183,180	22,833	10,320	1,578	27,014	3,349	4,658	649

OPERATING UNITS: BY COUNTIES

Item	Bristol	Kent	Newport	Providence	Washington
	Number	*Number*	*Number*	*Number*	*Number*
Fishermen:					
On vessels	26	3	257	24	18
On boats and shore:					
Regular	17	88	144	10	112
Casual	93	249	157	108	70
Total	136	340	558	142	200
Vessels:					
Steam			6	2	
Net tonnage			100	101	
Motor	7	1	48	2	7
Net tonnage	107	11	418	82	77
Total vessels	7	1	54	4	7
Total net tonnage	107	11	518	183	77
Boats:					
Motor	36	122	175	12	88
Other	67	197	67	105	70
Accessory boats			74		
Apparatus:					
Purse seines:					
Mackerel			2		
Length, yards			420		
Menhaden			1		
Length, yards			400		
Haul seines	2	3		9	6
Length, yards	100	225		667	1,520
Gill nets, drift			42		2
Square yards			15,300		2,500
Lines:					
Hand	4		172	11	61
Hooks	8		213		98
Trawl			43		8
Hooks			20,700		4,000
Troll			16		32
Hooks			16		32
Trot with hooks				1	
Hooks				200	
Pound nets	1		45	1	17
Floating traps			30		10
Fyke nets	11	26			
Otter trawls			45		16
Yards at mouth			1,211		424
Pots:					
Eel	90	343	430	145	690
Lobster	2,805	4,565	36,662	585	9,055
Periwinkle and cockle	500		490		595
Harpoons	1		32		3
Spears	1			10	2
Dredges:					
Clam		3	9		
Yards at mouth		1	8		
Mussel	1				
Yards at mouth	1				
Oyster	14	2		8	
Yards at mouth	21	3		12	
Scallop		259	61	6	4
Yards at mouth		230	48	5	4
Tongs	84	293	26	97	4
Rakes		40	13	1	2
Forks	2				
Hoes	7	4	2	7	

Fisheries of Rhode Island, 1933—Continued

CATCH: BY COUNTIES

Species	Bristol		Kent		Newport		Providence		Washington	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	10,000	$75							166,000	$1,840
Bluefish					129,641	$6,662			64,745	4,144
Bonito					46,212	1,914			110	9
Butterfish					424,513	14,305			62,009	1,899
Cod	2,312	37			776,160	14,227			129,769	2,471
Crevalle					2,200	81				
Cunners					41,440	451				
Eels:										
Common	2,983	175	11,815	$890	58,964	3,902	37,382	$3,985	34,467	3,161
Conger					958	29				
Flounders	400	10	925	28	2,604,467	73,901			647,285	16,991
Frigate mackerel					56,294	1,598			360	11
Grayfish					600	12				
Haddock					23,968	703				
Hake					9,171	183				
Herring, sea					527,486	8,922			209,520	2,545
Hickory shad					2,308	23				
King whiting or "kingfish"					1,440	53				
Mackerel					696,810	21,621			22,479	516
Menhaden					1,000,200	2,502			3,310	33
Mullet					2,811	141			6,000	180
Pollock					17,992	449			150	2
Scup or porgy					1,948,671	35,737			70,760	1,696
Sea bass					45,505	2,345			2,760	198
Sea robin					64,955	653			8,830	44
Shad	2,475	299			7,489	729	650	95	146	15
Sharks					600	18			1,347	10
Skates					139,620	1,110			36,790	218
Skipper or "billfish"					730	14				
Smelt									4,250	425
Spot									45	1
Squeteagues or "sea trout", gray					14,041	929			49,269	3,083
Striped bass					30,067	1,501			9,165	917
Sturgeon					449	37				
Swordfish	775	118			234,268	21,461			24,667	2,220
Tautog	5,850	161	6,300	189	140,163	3,608			114,810	3,444
Thimble-eyed mackerel					76,957	1,518			750	15
Tomcod					200	1				
Tuna or "horse mackerel"					44,577	1,484				
White perch					411	19	450	23		
Whiting					696,416	7,354			28,090	272
Crabs:										
Hard	10,478	189			10,000	180				
King					6,574	18				
Lobsters	31,127	4,981	33,011	5,942	459,246	70,238	2,484	397	182,227	32,375
Clams:										
Hard, public	102,399	12,513	635,844	72,213	115,126	13,083	112,661	12,823	102,861	14,415
Hard, private	60,170	8,205	28,875	4,044						
Soft, public	14,720	1,653	1,984	186	1,600	200	7,440	930	6,640	1,245
Mussels, sea	650	38								
Oysters:										
Market, public, spring									26,880	3,840
Market, public, fall			6,903	1,004					31,541	4,503
Market, private, spring	864,738	129,259	60,000	7,500			429,258	50,485	171,388	24,504
Market, private, fall	695,177	104,936	60,000	7,500			429,257	50,485	342,621	48,976
Periwinkles and cockles	28,620	1,840			40,772	1,692			40,050	1,669
Scallops, bay			47,250	9,844	10,920	2,274	630	105	4,320	720
Squid					338,161	8,044			163,690	3,574
Total	1,832,874	264,489	892,907	109,340	10,850,253	325,926	1,020,212	119,328	2,770,101	182,181

Fisheries of Rhode Island, 1933—Continued

SEED OYSTER FISHERY: BY GEAR

Item	Tongs	By hand	Total, exclusive of duplication
OPERATING UNITS			
Fishermen, on boats and shore:	*Number*	*Number*	*Number*
Regular	1	4	5
Casual	1	6	6
Total	2	10	11
Boats, other than motor	2		2
Apparatus, number	2		
CATCH			
Oysters, seed, public, spring	*Bushels* 169 / *Value* $135	*Bushels* 826 / *Value* $364	*Bushels* 995 / *Value* $499

SEED OYSTER FISHERY: BY COUNTIES

Item	Bristol		Kent	
OPERATING UNITS				
Fishermen, on boats and shore:	*Number*		*Number*	
Regular	3		2	
Casual	1		5	
Total	4		7	
Boats, other than motor			2	
Apparatus, tongs			2	
CATCH				
Oysters, seed, public, spring	*Bushels* 629	*Value* $206	*Bushels* 366	*Value* $29

NOTE.—Of the total number of persons fishing for seed oysters, 9 are duplicated among those fishing fo market oysters or other species. The 2 tongs also are duplicated.

CONNECTICUT

Fisheries of Connecticut, 1933

OPERATING UNITS: BY GEAR

Item	Haul seines	Gill nets		Lines		Pound nets	Fyke nets	Dip nets	Otte trawl
		Anchor	Drift	Hand	Trawl				
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Numb*
On vessels				49	15				1
On boats and shore:									
Regular		2		140	8	11		10	
Casual	66		70	30			2	109	
Total	66	2	70	219	23	11	2	119	1
Vessels:									
Motor				7	1				
Net tonnage				161	47				6
Boats:									
Motor	1	2	31	98	4	5			
Other	15		16			5	1	86	
Accessory boats					24				
Apparatus:									
Number	12	2	43	405	800	9	4	119	
Length, yards	1,668								
Square yards		1,680	12,360						
Yards at mouth									2,
Hooks, baits or snoods				443	35,680				

Fisheries of Connecticut, 1933—Continued

OPERATING UNITS: By gear—Continued

Item	Pots		Harpoons	Spears	Dredges		Tongs	Rakes	Hoes	Total, exclusive of duplication
	Eel	Lobster			Oyster	Scallop				
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:										
On vessels		9	73		115	8				307
On boats and shore:										
Regular	21	205	3	9	2		16		4	360
Casual	12	51	6	33			102	71	34	494
Total	33	265	82	42	117	8	118	71	38	1,161
Vessels:										
Steam					3					3
Net tonnage					581					581
Motor		4	13		16	1				67
Net tonnage		30	189		401	55				1,056
Total vessels		4	13		19	1				70
Total net tonnage		30	189		982	55				1,637
Boats:										
Motor	11	201	3		1		2			294
Other	22	35		28			75	33	25	276
Accessory boats			15							39
Apparatus:										
Number	1,289	17,212	16	42	43	2	118	71	38	
Yards at mouth					65	7				

CATCH: By gear

Species	Haul seines		Gill nets				Lines			
			Anchor		Drift		Hand		Trawl	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives					162	$2				
Bluefish			1,500	$150			292,351	$21,695		
Cod							23,200	696	80,200	$2,559
Croaker							3,000	90		
Eels, conger									1,000	100
Haddock									3,150	142
Hake									500	10
Halibut									6,000	300
Scup or porgy							16,000	800		
Sea bass							23,695	1,620		
Shad	43,478	$3,166			88,732	7,669				
Smelt	2,240	224								
Squeteagues or "sea trout", gray			750	75			940	94		
Striped bass							750	75		
Tautog							33,933	1,485		
Tilefish									207,000	10,330
Total	45,718	3,390	2,250	225	88,894	7,671	393,869	26,555	289,850	13,441

Species	Pound nets		Fyke nets		Dip nets		Otter trawls	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	15,000	$150						
Bluefish	2,490	204					113	$9
Butterfish	12,425	586					3,516	178
Cod							44,525	1,202
Croaker							2,738	46
Drum, black							100	1
Eels:								
Common	450	34	400	$40			190	4
Conger							400	20
Flounders	3,850	205					6,172,188	175,763
Haddock							32,300	876
Hake							581	10
Halibut							63	10
King whiting or "kingfish"							451	12

Fisheries of Connecticut, 1933—Continued

CATCH: BY GEAR—Continued

Species	Pound nets		Fyke nets		Dip nets		Otter trawls	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Mackerel							870	$27
Menhaden	25,250	$252					25,987	859
Scup or porgy							3,920	223
Sea bass							3,250	33
Sea robin					1,070	$134		
Shad							18,550	185
Skates							50	1
Spot							320	17
Squeteagues or "sea trout", gray	17,500	1,550						
Striped bass	1,500	150					44	5
Sturgeon								
Suckers			1,000	$60				
Tautog	4,600	222					2,425	81
Whiting							16,775	547
Wolffish							4,100	41
Crabs, hard					400	25		
Lobsters							163	20
Scallops:								
Bay					57,500	10,000		
Sea							126	26
Squid	2,425	37					480	13
Total	85,490	3,390	1,400	100	58,970	10,159	6,334,225	180,209

Species	Pots				Harpoons		Spears	
	Eel		Lobster					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Eels, common	25,469	$2,191					20,885	$1,695
Swordfish					154,235	$16,650		
Tautog			2,140	$107				
Lobsters			336,637	64,115				
Total	25,469	2,191	338,777	64,222	154,235	16,650	20,885	1,695

Species	Dredges				Tongs		Rakes		Hoes	
	Oyster		Scallop							
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Clams:										
Hard, public					51,910	$10,796	41,645	$8,329	8,050	$1,610
Soft, public									13,683	1,953
Oysters:										
Market, public, spring					10,150	1,250				
Market, public, fall					11,550	1,450				
Market, private, spring	605,447	$80,083			8,100	1,300				
Market, private, fall	1,208,511	167,811			15,150	2,450				
Scallops, sea			55,800	$6,200						
Total	1,813,958	247,894	55,800	6,200	96,860	17,246	41,645	8,329	21,733	3,563

Fisheries of Connecticut, 1933—Continued

OPERATING UNITS: By counties

Item	Fairfield	Hartford	Middlesex	New Haven	New London
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	99			60	148
On boats and shore:					
Regular	56		76	59	169
Casual	163	61	113	20	137
Total	318	61	189	139	454
Vessels:					
Steam	2			1	
Net tonnage	187			394	
Motor	17			13	37
Net tonnage	421			172	463
Total vessels	19			14	37
Total net tonnage	608			566	463
Boats:					
Motor	42	2	80	42	128
Other	95	16	48	19	98
Accessory boats					39
Apparatus:					
Haul seines	3	8	1		
Length, yards	300	900	468		
Gill nets:					
Anchor					2
Square yards					1,680
Drift		2	30		11
Square yards		560	8,680		3,120
Lines:					
Hand	72		116	65	152
Hooks	100		116	65	162
Trawl					800
Hooks					35,680
Pound nets					9
Fyke nets		4			
Dip nets		7	20		92
Otter trawls	13		4	10	62
Yards at mouth	330		100	237	1,706
Pots:					
Eel	115		264	338	572
Lobster	5,007		2,843	2,814	6,548
Harpoons	1			1	14
Spears	20			5	17
Dredges:					
Oyster	27			16	
Yards at mouth	40			25	
Scallop	2				
Yards at mouth	7				
Tongs	82		32		4
Rakes	71				
Hoes			10	10	18

CATCH: By counties

Species	Fairfield		Hartford		Middlesex		New Haven		New London	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives					162	$2			15,000	$150
Bluefish	12,759	$993			36,057	3,138	18,949	$1,597	228,689	16,330
Butterfish									15,941	764
Cod	2,000	60			540	16			145,385	4,381
Croaker	3,000	90					222	2	2,516	44
Drum, black									100	1
Eels:										
Common	18,333	1,498	400	$40	3,240	324	3,810	381	21,611	1,721
Conger									1,400	120
Flounders	196,578	5,441			28,540	704	112,945	3,660	5,837,975	166,163
Haddock									35,450	1,018
Hake	275	5							806	15
Halibut									6,063	310
King whiting or "kingfish"									451	12
Mackerel									870	27
Menhaden									25,250	252
Scup or porgy	32,220	1,329							9,767	330
Sea bass	11,150	762			1,215	74	220	13	15,030	994
Sea robin									3,250	33

Fisheries of Connecticut, 1933—Continued

CATCH: BY COUNTIES—Continued

Species	Fairfield		Hartford		Middlesex		New Haven		New London	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Shad			44,148	$3,275	67,502	$5,531			21,630	$2,163
Skates									18,550	185
Smelt	2,240	$224								
Spot	50	1								
Squeteagues or "sea trout", gray	58	4			940	94	10	$1	18,502	1,637
Striped bass									2,250	225
Sturgeon							27	3	17	2
Suckers			1,000	60						
Swordfish	20,500	1,968					2,260	130	131,475	14,552
Tautog	8,231	453			13,274	656	1,191	72	20,402	714
Tilefish									207,000	10,330
Whiting									16,775	547
Wolffish									4,100	41
Crabs, hard									400	25
Lobsters	53,211	10,635			46,011	9,202	62,565	12,513	175,013	31,785
Clams:										
Hard, public	88,455	17,691			5,100	1,434	8,050	1,610		
Soft, public					8,400	1,200	1,500	150	3,783	603
Oysters:										
Market, public, spring					10,150	1,250				
Market, public, fall					11,550	1,450				
Market, private, spring	356,972	47,633			2,100	300	248,475	32,450	6,000	1,000
Market, private, fall	569,317	79,394			3,150	450	639,194	88,417	12,000	2,000
Scallops:										
Bay					11,500	2,000			46,000	8,000
Sea	55,800	6,200							126	26
Squid	415	12							2,490	38
Total	1,431,564	174,393	45,548	3,375	249,431	27,825	1,099,418	140,999	7,052,067	266,538

SEED OYSTER FISHERY: BY GEAR

Item	Dredges, oyster	Tongs	Rakes	Total, exclusive of duplication
OPERATING UNITS				
Fishermen:	*Number*	*Number*	*Number*	*Number*
On vessels	93			93
On boats and shore, casual	14	94	46	154
Total	107	94	46	247
Vessels:				
Steam	3			3
Net tonnage	245			245
Motor	18			18
Net tonnage	271			271
Sail	2			2
Net tonnage	17			17
Total vessels	23			23
Total net tonnage	533			533
Boats:				
Motor	7			7
Other		60	28	88
Apparatus:				
Number	101	94	46	
Yards at mouth	97			
CATCH				
Oysters:	*Bushels*	*Bushels*	*Bushels*	*Bushels*
Seed, public, spring	23,463	5,200	1,800	30,463
Seed, public, fall	23,663	16,900	2,600	43,163
Seed, private, spring	207,185			207,185
Total	254,311	22,100	4,400	280,811
	Value	*Value*	*Value*	*Value*
Oysters:				
Seed, public, spring	$9,385	$2,080	$720	$12,185
Seed, public, fall	9,465	6,760	1,040	17,265
Seed, private, spring	69,617			69,617
Total	88,467	8,840	1,760	99,067

Fisheries of Connecticut, 1933—Continued

SEED OYSTER FISHERY: BY COUNTIES

Item	Fairfield		New Haven	
OPERATING UNITS				
Fishermen:	*Number*		*Number*	
On vessels	51		42	
On boats and shore, casual	150		4	
Total	201		46	
Vessels:				
Steam	2		1	
Net tonnage	140		105	
Motor	10		8	
Net tonnage	113		158	
Sail	2			
Net tonnage	17			
Total vessels	14		9	
Total net tonnage	270		263	
Boats:				
Motor	5		2	
Other	88			
Apparatus:				
Dredges	75		26	
Yards at mouth	64		33	
Tongs	94			
Rakes	46			
CATCH				
Oysters:	*Bushels*	*Value*	*Bushels*	*Value*
Seed, public, spring	26,863	$10,745	3,600	$1,440
Seed, public, fall	39,563	15,825	3,600	1,440
Seed, private, spring	74,817	41,099	132,368	28,518
Total	141,243	67,669	139,568	31,398

NOTE.—Of the total number of persons fishing for seed oysters, 126 are duplicated among those fishing for market oysters or other species. Similarly the following craft and gear are duplicated: 78 boats other than motor, 80 tongs, and 46 rakes.

VESSEL FISHERIES AT PRINCIPAL NEW ENGLAND PORTS

Due to the importance of the ports of Boston and Gloucester, Mass., and Portland, Maine, as landing points for fishery products, detailed monthly statistics are collected for these landings which are published in the following section. These landings are included in the catch by States appearing elsewhere in this document, but also are presented here for their value in detailed form.

ECONOMIC ASPECT

The landings of fishery products at the three principal New England ports (Boston and Gloucester, Mass., and Portland, Maine) by vessels of 5 net tons capacity or more, during 1933 amounted to 267,157,218 pounds as landed, valued at $6,850,901. This is an increase of 6 percent in the quantity of the catch as compared with 1932, and an increase of 13 percent in the value of the catch. Of the total landings 99 percent consisted of fresh fish and 1 percent salted fish. The landings at Boston accounted for 232,583,049 pounds, valued at $6,093,604, or 87 percent of the total landings. The landings at Gloucester amounted to 21,736,997 pounds, valued at $441,937, or 8 percent of the total. Landings at Portland amounted to 12,837,172 pounds, valued at $315,360, or 5 percent of the total landings.

Among the landings of fresh fish, haddock far outranked other species in volume landed, the amount of all sizes in 1933 being 129,847,257 pounds, or 49 percent of the total fresh fish.

Landings by fishing vessels at the 3 principal New England ports, 1933

BOSTON: BY MONTHS

Species	January		February		March		April		May		June		July	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:														
Large	2,585,139	$55,765	4,079,855	$79,391	4,638,620	$123,961	2,907,927	$48,245	1,873,315	$31,875	1,449,898	$39,203	1,759,068	$41,125
Market	1,700,490	38,482	1,762,390	43,506	2,247,765	57,831	3,015,715	37,841	2,435,900	31,572	1,952,585	37,552	4,369,380	75,054
Scrod	27,270	483	12,250	192	4,115	94	900	9	2,100	22	11,050	172	23,250	383
Cod, salted:														
Large											9,000	207	11,000	305
Market									11,000	253	3,560	46		
Haddock, fresh:														
Large	6,623,185	234,991	8,521,960	268,389	9,645,690	333,564	11,661,785	175,953	9,600,536	161,449	7,310,335	177,536	7,818,740	183,996
Scrod	1,561,565	38,608	1,966,970	49,726	1,751,360	48,940	1,999,220	20,050	1,710,785	19,910	1,364,580	24,194	1,642,450	27,792
Hake, fresh:														
Large	757,465	15,680	298,540	8,633	122,430	4,780	181,640	3,985	173,925	2,359	237,575	4,132	123,110	1,688
Small	16,000	344	10,760	338	9,800	330	3,775	106	37,950	569	19,630	401	83,190	1,359
Pollock, fresh	1,216,725	16,835	484,225	10,233	305,715	7,718	895,735	5,649	674,095	5,049	256,270	3,339	376,990	4,902
Cusk, fresh	416,510	6,083	330,736	5,159	108,325	2,044	205,330	1,809	119,905	1,021	143,575	1,562	113,540	1,439
Halibut, fresh	38,476	7,481	119,622	15,143	209,685	21,403	180,140	24,278	270,191	27,357	207,918	17,851	269,122	25,869
Mackerel, fresh	1,155	93	120	1					3,632,163	56,165	2,169,695	67,426	2,353,943	52,084
Flounders, fresh	761,390	36,663	729,510	31,617	531,250	28,067	587,000	23,582	1,059,400	20,769	789,940	18,714	710,304	22,565
Swordfish, fresh											162,493	40,679	464,176	89,585
Herring, fresh	775	39	75	2										
Other, fresh	135,895	5,674	119,487	3,368	223,703	5,826	336,323	4,818	550,349	6,354	299,632	3,527	165,385	2,751
Total, fresh	15,841,740	457,221	18,436,500	515,698	19,798,458	634,558	21,975,490	346,325	22,140,614	364,471	16,375,176	436,288	20,272,648	530,592
Total, salted									11,000	253	12,500	253	11,000	305
Grand total	15,841,740	457,221	18,436,500	515,698	19,798,458	634,558	21,975,490	346,325	22,151,614	364,724	16,387,676	436,541	20,283,648	530,897
Landed in 1932:														
Fresh	14,621,426	472,864	18,685,804	660,364	19,220,853	592,393	19,552,627	320,842	19,773,187	389,166	17,046,277	418,749	18,353,142	388,315
Salted							11,000	165	10,000	300	24,000	741	1,150	25
Total	14,621,426	472,864	18,685,804	660,364	19,220 853	592,393	19,563,627	321,007	19,783,187	389,466	17,070,277	419,490	18,354,292	388,340

NOTE.—The weights of fresh and salted fish given in these statistics represent the fish as landed from the vessels, and the values are those received by the fishermen. Large cod are classified as those weighing over 10 pounds; market cod, 2½ to 10 pounds; and scrod cod, 1 to 2½ pounds. Large haddock are those weighing over 2½ pounds and scrod haddock 1 to 2½ pounds. Large hake are those weighing over 6 pounds and small hake, under 6 pounds. Only landings by vessels having a capacity of 5 net tons or greater are used in this tabulation.

Species	August		September		October		November		December		Total, 1933		1932	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:														
Large	1,596,001	$43,864	1,267,174	$41,283	1,933,240	$56,712	1,961,566	$62,806	1,910,170	$57,404	27,961,973	$681,634	21,445,174	$586,706
Market	4,103,189	69,330	2,292,725	53,983	3,028,470	70,792	2,909,520	81,077	3,207,700	77,077	33,025,829	674,097	26,917,646	454,035
Scrod	4,150	51	29,680	546	52,410	947	11,870	174	16,900	320	195,945	3,393	101,015	1,737
Cod, salted:														
Large					30,500	1,028					50,500	1,540	47,815	1,518
Market					1,000	30					15,500	329	32,360	587
Haddock, fresh:														
Large	7,487,140	201,163	6,516,290	205,917	7,114,815	234,421	4,520,533	217,142	3,532,885	170,781	90,353,894	2,565,302	87,083,975	2,368,147
Scrod	2,506,795	44,422	6,141,240	123,543	5,582,620	95,954	2,987,710	71,558	3,316,565	75,016	32,531,860	639,713	27,649,754	399,352
Haddock, salted, large	400	4									400	4		
Hake, fresh:														
Large	264,590	4,025	478,948	8,984	517,255	10,009	846,435	20,723	682,000	15,436	4,683,613	100,434	5,647,501	111,176
Small	54,200	948	85,800	1,958	102,800	2,212	75,640	1,833	38,100	933	537,645	11,331	19,000	318
Hake, salted, small													4,000	80
Pollock, fresh	427,420	5,334	320,050	4,552	752,000	9,920	1,297,645	17,549	1,254,710	14,781	8,261,580	105,861	5,775,443	70,602
Pollock, salted	50										50		7,300	73
Cusk, fresh	55,720	674	245,180	4,177	272,400	4,580	207,850	4,292	279,505	5,450	2,498,576	38,290	2,492,595	38,187
Halibut, fresh	128,409	13,256	115,446	12,674	108,803	12,335	58,663	7,274	49,189	6,091	1,755,664	191,012	2,084,176	239,176
Mackerel, fresh	4,197,145	80,304	2,003,641	50,638	2,520,690	72,943	276,110	14,770	193,455	7,886	17,348,117	402,310	25,274,474	460,214
Mackerel, salted			9,800	147							9,800	147		
Flounders, fresh	800,445	27,413	888,336	36,831	807,865	33,069	896,472	42,487	716,630	27,336	9,278,542	349,113	6,796,804	274,679
Swordfish, fresh	529,335	73,748	512,176	74,158	12,749	3,500	375	24			1,681,304	281,694	2,257,522	315,092
Herring, fresh	1,100	11			675	27	830	17	650	40	4,105	136	7,560	90
Other, fresh	100,496	3,648	62,509	2,686	191,930	3,751	116,485	3,047	85,958	1,814	2,388,152	47,264	1,974,925	45,156
Total, fresh	22,256,135	568,191	20,959,195	621,930	22,998,722	611,172	16,167,704	544,773	15,284,417	460,365	232,506,799	6,091,584	215,527,504	5,364,667
Total, salted	450	4	9,800	147	31,500	1,058					76,250	2,020	91,475	2,258
Grand total	22,256,585	568,195	20,968,995	622,077	23,030,222	612,230	16,167,704	544,773	15,284,417	460,365	232,583,049	6,093,604	215,618,979	5,366,925
Landed in 1932:														
Fresh	20,830,781	430,596	20,573,161	420,414	20,461,179	396,038	14,176,025	452,927	12,233,042	421,999			215,527,504	5,364,667
Salted	17,180	185			15,000	510	9,145	252	4,000	80			91,475	2,258
Total	20,847,961	430,781	20,573,161	420,414	20,476,179	396,548	14,185,170	453,179	12,237,042	422,079			215,618,979	5,366,925

Landings by fishing vessels at the 3 principal New England ports, 1933—Continued

GLOUCESTER: BY MONTHS

Species	January		February		March		April		May		June		July	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:														
Large	156,450	$3,897	396,240	$7,546	408,540	$9,770	1,089,505	$19,940	1,723,450	$30,380	379,490	$10,053	306,700	$6,174
Market	15,695	250	21,555	391	21,930	445	240,680	2,457	366,030	3,903	100,475	1,006	126,960	1,274
Scrod	1,455	14	460	7	5,290	81	660	4	3,665	19			650	5
Cod, salted:														
Large							2,750	70	193,904	4,764	40,330	1,009	688,712	20,661
Market							2,290	46	94,892	1,423	12,292	185	266,458	5,329
Scrod									15,585	156			80,835	607
Haddock, fresh:														
Large	58,575	2,402	37,965	1,211	80,635	3,109	1,096,165	19,639	767,420	13,385	15,215	228	76,765	1,180
Scrod	2,350	34	1,430	24	1,360	26	43,650	332	6,460	41	55	1	11,720	89
Hake, fresh, large	55,145	1,108	19,285	474	11,190	374	10,690	180	12,115	81	1,740	13	7,609	50
Hake, salted, large											30	1	1,325	13
Pollock, fresh	122,790	1,792	58,895	1,479	25,100	815	48,530	272	23,675	119	11,110	95	5,075	27
Pollock, salted							90	1						
Cusk, fresh	1,940	24	1,930	27	3,565	71	104,740	362	29,885	189	25,195	189	21,220	145
Halibut, fresh			39	8	24	2			1,315	169	2,807	217		
Halibut, salted									130	7				
Mackerel, fresh									462,220	3,439	103,515	2,327	261,100	4,637
Mackerel, salted													4,400	264
Flounders, fresh	59,265	2,046	75,680	2,420	50,180	2,026	47,350	1,107	15,900	240	21,860	491	19,020	438
Herring, fresh											11,500	91		
Other, fresh	5,510	53	7,150	91	8,065	188	4,170	102	490	4	715	6	12,170	143
Total, fresh	479,175	11,620	620,629	13,678	615,879	16,907	2,686,140	44,395	3,412,625	51,969	673,677	14,717	848,989	14,162
Total, salted							5,130	117	304,511	6,350	52,652	1,195	1,041,730	26,874
Grand total	479,175	11,620	620,629	13,678	615,879	16,907	2,691,270	44,512	3,717,136	58,319	726,329	15,912	1,890,719	41,036
Landed in 1932:														
Fresh	356,379	13,520	457,680	21,320	773,065	22,126	2,126,060	37,088	2,015,490	31,081	1,546,305	25,391	2,550,828	29,019
Salted									255,480	8,312	118,070	3,429	303,304	8,454
Total	356,379	13,520	457,680	21,320	773,065	22,126	2,126,060	37,088	2,270,970	39,393	1,664,375	28,820	2,854,132	37,473

Species	August		September		October		November		December		Total, 1933		1932	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:														
Large	143,905	$2,390	291,885	$11,338	521,575	$17,739	65,100	$2,161	51,770	$1,906	5,534,610	$123,294	4,883,161	$126,270
Market	113,008	1,131	17,565	186	181,225	4,313	55,185	1,177	44,165	751	1,304,473	17,284	1,813,670	18,113
Scrod			200	2	3,150	60	205	3	475	6	16,210	201	3,120	24
Cod, salted:														
Large	349,857	10,374	110,439	3,720	147,436	5,777					1,533,428	46,375	660,265	20,242
Market	263,296	5,266	91,848	2,266	162,623	4,866					893,699	19,381	415,559	9,805
Scrod	98,041	1,225	18,859	283	22,357	447					235,677	2,718	121,965	1,347
Haddock, fresh:														
Large	103,325	1,668	22,615	894	115,909	4,630	77,790	2,911	13,295	695	2,465,674	51,952	2,212,557	46,726
Scrod	1,715	16	5,000	68	11,920	266	750	5	3,395	35	89,805	937	218,085	1,752
Haddock, salted, scrod									2,450	12	2,450	12		
Hake, fresh:														
Large	14,050	127	45,815	971	199,708	3,528	56,185	1,344	42,510	898	476,042	9,148	1,029,151	9,311
Small					9,170	127	2,635	77			11,805	204		
Hake, salted, large											1,355	14	1,045	14
Pollock, fresh	27,945	267	356,205	6,027	739,857	9,990	1,320,055	18,289	658,875	8,381	3,398,112	47,553	1,174,950	9,644
Pollock, salted											90	1	1,295	13
Cusk, fresh	68,085	450	11,995	80	4,580	62	2,390	42	3,340	57	278,865	1,698	236,857	1,702
Cusk, salted	944	12	440	7							1,384	19	4,000	57
Halibut, fresh							95	14			4,280	410	162,320	11,787
Halibut, salted											130	7	840	59
Mackerel, fresh	745,590	11,535	1,071,156	16,498	868,627	20,636	340,001	17,405	128,335	4,812	3,980,544	81,289	11,031,008	138,343
Mackerel, salted			40,000	800	11,600	406					56,000	1,470	23,225	696
Flounders, fresh	8,360	200	12,855	583	12,540	531	15,415	719	38,485	1,793	376,910	12,594	415,995	14,980
Swordfish, fresh			771	110							771	110	7,032	789
Herring, fresh											11,500	91	21,000	210
Herring, salted									703,494	21,290	703,494	21,290	655,700	20,130
Other, fresh	207,200	2,051	94,700	750	7,412	220	6,112	223	5,995	54	359,689	3,885	235,413	2,062
Total, fresh	1,433,183	19,835	1,930,762	37,507	2,675,673	62,102	1,941,918	44,370	990,640	19,388	18,309,290	350,650	23,444,319	381,713
Total, salted	712,138	16,877	261,586	7,076	344,016	11,496			705,944	21,302	3,427,707	91,287	1,883,894	52,363
Grand total	2,145,321	36,712	2,192,348	44,583	3,019,689	73,598	1,941,918	44,370	1,696,584	40,690	21,736,997	441,937	25,328,213	434,076
Landed in 1932:														
Fresh	3,467,071	39,047	3,984,238	56,620	4,161,740	44,647	1,190,792	34,613	814,671	27,241			23,444,319	381,713
Salted	97,925	2,958	332,560	7,321	255,655	6,814			520,900	15,075			1,883,894	52,363
Total	3,564,996	42,005	4,316,798	63,941	4,417,395	51,461	1,190,792	34,613	1,335,571	42,316			25,328,213	434,076

Landings by fishing vessels at the 3 principal New England ports, 1933—Continued

PORTLAND: BY MONTHS

Species	January		February		March		April		May		June		July	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:														
Large	72,965	$1,855	70,442	$1,746	156,496	$3,976	233,387	$2,954	237,627	$3,143	339,113	$8,439	386,421	$9,271
Market	37,304	570	38,033	740	71,730	1,369	113,710	1,139	90,475	914	80,498	1,321	124,741	2,421
Scrod	3,423	26	1,580	15	1,040	10	2,165	11	320	1	270	1	425	2
Cod, salted:														
Large									21,645	555	13,480	336		
Market									3,800	75	6,230	125		
Haddock, fresh:														
Large	196,729	9,170	224,685	8,683	306,669	10,684	557,723	7,340	697,212	9,671	233,433	6,521	680,487	15,525
Scrod	6,482	81	5,767	71	2,476	24	1,320	8	257	1	78,675	1,494	188,784	3,668
Haddock, salted:														
Large											9,900	248		
Scrod											1,615	24		
Hake, fresh:														
Large	3,030	58	500	10	145	4			20		10		3,965	29
Small	184,240	2,841	96,693	1,929	72,515	1,543	99,773	1,769	102,044	878	79,200	870	123,165	1,386
Hake, salted, large									1,675	17				
Pollock, fresh	50,832	341	32,585	396	57,001	721	24,285	98	36,602	148	80,685	393	52,802	347
Pollock, salted														
Cusk, fresh	79,184	1,225	65,146	1,193	89,885	1,589	113,155	1,032	96,380	729	1,876	26	873	14
Cusk, salted									330	3				
Halibut, fresh	394	59	216	27	67	10	32,252	3,551	93,313	6,982	86,402	8,451	24,769	2,798
Halibut, salted									1,985	90				
Mackerel, fresh									10,350	214	25,995	412	391,588	3,639
Flounders, fresh	29,219	908	35,773	998	93,508	3,841	26,525	567	40,017	485	98,691	1,194	93,483	1,897
Swordfish, fresh											15,861	3,423	53,899	9,099
Herring, fresh											4,200	32	28,400	250
Other, fresh	26,464	592	14,978	446	15,476	464	2,451	33	2,566	30	17,986	188	46,237	382
Total, fresh	690,266	17,726	586,398	16,254	867,002	24,235	1,206,746	18,502	1,407,183	23,196	1,142,895	32,765	2,200,039	50,728
Total, salted									29,435	740	31,205	733		
Grand total	690,266	17,726	586,398	16,254	867,002	24,235	1,206,746	18,502	1,436,618	23,936	1,174,100	33,498	2,200,039	50,728
Landed in 1932:														
Fresh	584,943	17,884	515,287	17,952	844,076	23,264	1,676,850	25,482	788,605	11,812	730,969	23,183	1,072,120	32,923
Salted							1,850	41	5,455	148	3,395	95	556	16
Total	584,943	17,884	515,287	17,952	844,076	23,264	1,678,700	25,523	794,060	11,960	734,364	23,278	1,072,676	32,939

Species	August		September		October		November		December		Total, 1933		1932	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:														
Large	300,398	$9,783	219,249	$9,146	93,106	$3,087	48,200	$1,643	49,330	$1,488	2,206,728	$56,531	2,507,439	$72,657
Market	98,562	1,916	26,859	501	34,635	642	28,035	613	29,330	716	773,912	12,862	567,519	8,002
Scrod	290	1	2,885	18	1,815	11	2,665	22	1,985	21	18,863	139	23,932	176
Cod, salted:														
Large	25,571	792			430	15					61,106	1,698	6,306	205
Market	3,135	66			160	3					13,325	269	3,805	87
Scrod													90	2
Haddock, fresh:														
Large	567,743	14,161	156,206	7,760	153,209	7,568	102,578	5,570	86,890	4,906	3,963,564	107,559	2,882,137	90,213
Scrod	131,655	2,572	10,471	98	6,318	45	6,668	84	3,587	58	442,460	8,204	70,366	618
Haddock, salted:														
Large											9,900	248		
Scrod											1,615	24		
Hake, fresh:														
Large	68,205	817	143,056	2,184	217,722	3,704	126,640	2,633	73,738	1,791	637,031	11,230	195,436	3,551
Small	76,505	609	3,575	24	6,940	46	1,450	12	1,293	14	847,393	11,921	848,531	12,138
Hake, salted:														
Large											1,675	17		
Small													455	4
Pollock, fresh	133,556	815	133,008	910	45,335	377	48,492	520	40,332	334	735,515	5,400	890,639	5,354
Pollock, salted													615	3
Cusk, fresh	30,045	235	28,043	450	70,822	1,145	42,069	837	33,693	773	651,171	9,248	335,388	5,817
Cusk, salted											330	3	160	2
Halibut, fresh	110,623	9,967	24,784	2,293	1,171	116	1,670	210	967	140	376,628	34,601	108,533	10,191
Halibut, salted											1,985	90	195	6
Mackerel, fresh	353,476	3,352	163,824	2,180	56,398	2,224	10,297	460			1,011,928	12,481	1,677,321	18,563
Mackerel, salted	30,100	396	8,000	80							38,100	476	90,590	591
Flounders, fresh	79,559	2,106	39,913	1,507	10,017	386	5,443	203	30,883	710	583,031	14,802	230,034	5,858
Swordfish, fresh	79,780	10,631	6,299	1,032							155,839	24,185	339,361	41,052
Herring, fresh	20,000	100	90,400	380							143,000	762	71,000	355
Other, fresh	4,928	43	24,778	211	1,702	46	4,015	80	492	92	162,073	2,607	537,371	7,405
Total, fresh	2,055,325	57,108	1,073,350	28,694	699,190	19,397	428,222	12,887	352,520	11,043	12,709,136	312,535	11,285,007	281,950
Total, salted	58,806	1,254	8,000	80	590	18					128,036	2,825	102,126	900
Grand total	2,114,131	58,362	1,081,350	28,774	699,780	19,415	428,222	12,887	352,520	11,043	12,837,172	315,360	11,387,133	282,850
Landed in 1932:														
Fresh	1,576,395	42,849	1,694,588	36,828	679,803	17,840	538,505	16,607	582,866	15,326			11,285,007	281,950
Salted	55,000	413	35,500	178			370	9					102,126	900
Total	1,631,395	43,262	1,730,088	37,006	679,803	17,840	538,875	16,616	582,866	15,326			11,387,133	282,850

Landings by fishing vessels at the 3 principal New England ports, 1933—Continued

SUMMARY: BY PORTS

Species	Boston		Gloucester		Portland		Total, 1933		1932	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod, fresh:										
Large	27,961,973	$681,634	5,534,610	$123,294	2,206,728	$56,531	35,703,311	$861,459	28,835,774	$785,633
Market	33,025,829	674,097	1,304,473	17,284	773,912	12,862	35,104,214	704,243	29,298,835	480,150
Scrod	195,945	3,393	16,210	201	18,863	139	231,018	3,733	128,067	1,937
Cod, salted:										
Large	50,500	1,540	1,533,428	46,375	61,106	1,698	1,645,034	49,613	714,386	21,965
Market	15,500	329	893,699	19,381	13,325	269	922,524	19,979	451,724	10,479
Scrod			235,677	2,718			235,677	2,718	122,055	1,349
Haddock, fresh:										
Large	90,353,894	2,565,302	2,465,674	51,952	3,963,564	107,559	96,783,132	2,724,813	92,178,669	2,505,086
Scrod	32,531,860	639,713	89,805	937	442,460	8,204	33,064,125	648,854	27,938,205	401,722
Haddock, salted:										
Large	400	4			9,900	248	10,300	252		
Scrod			2,450	12	1,615	24	4,065	36		
Hake, fresh:										
Large	4,683,613	100,434	476,042	9,148	637,031	11,230	5,796,686	120,812	6,872,088	124,038
Small	537,645	11,331	11,805	204	847,393	11,921	1,396,843	23,456	867,531	12,456
Hake, salted:										
Large			1,355	14	1,675	17	3,030	31	1,045	14
Small									4,455	84
Pollock, fresh	8,261,580	105,861	3,398,112	47,553	735,515	5,400	12,395,207	158,814	7,841,032	85,600
Pollock, salted	50		90	1			140	1	9,210	89
Cusk, fresh	2,498,576	38,290	278,865	1,698	651,171	9,248	3,428,612	49,236	3,064,840	45,706
Cusk, salted			1,384	19	330	3	1,714	22	4,160	59
Halibut, fresh	1,755,664	191,012	4,280	410	376,628	34,604	2,136,572	226,026	2,355,029	261,154
Halibut, salted			130	7	1,985	90	2,115	97	1,035	65
Mackerel, fresh	17,348,117	402,310	3,980,544	81,289	1,011,928	12,481	22,340,589	496,080	37,982,803	617,120
Mackerel, salted	9,800	147	56,000	1,470	38,100	476	103,900	2,093	113,725	1,287
Flounders, fresh	9,278,542	349,113	376,910	12,594	583,031	14,802	10,238,483	376,509	7,442,833	295,517
Swordfish, fresh	1,681,304	281,694	771	110	155,839	24,185	1,837,914	305,989	2,603,915	356,933
Herring, fresh	4,105	136	11,500	91	143,000	762	158,605	989	99,500	655
Herring, salted			703,494	21,290			703,494	21,290	655,700	20,130
Other, fresh	2,388,152	47,264	359,689	3,885	162,073	2,607	[1] 2,909,914	53,756	2,747,709	54,623
Total, fresh	232,506,799	6,091,584	18,309,290	350,650	12,709,136	312,535	263,525,225	6,754,769	250,256,830	6,028,330
Total, salted	76,250	2,020	3,427,707	91,287	128,036	2,825	3,631,993	96,132	2,077,495	55,521
Grand total	232,583,049	6,093,604	21,736,997	441,937	12,837,172	315,360	267,157,218	6,850,901	252,334,325	6,083,851
Landed in 1932:										
Fresh	215,527,504	5,364,667	23,444,319	381,713	11,285,007	281,950			250,256,830	6,028,330
Salted	91,475	2,258	1,883,894	52,363	102,126	900			2,077,495	55,521
Total	215,618,979	5,366,925	25,328,213	434,076	11,387,133	282,850			252,334,325	6,083,851

[1] The items under "Other, fresh" include alewives, 341,725 pounds, value $2,910; butterfish, 97,320 pounds, value $5,654; rosefish, 250,075 pounds, value $2,639; scup, 6,700 pounds, value $100; sea robins, 400 pounds, value $8; shad, 70,871 pounds, value $917; sharks, 21,363 pounds, value $313; skates, 10,308 pounds, value $208; smelt, 11,767 pounds, value $327; sturgeon, 1,822 pounds, value $178; tuna or "horse mackerel", 4,826 pounds, value $200; whiting, 137,340 pounds, value $3,191; wolffish, 1,814,264 pounds, value $30,470; lobsters, 259 pounds, value $58; scallops, 5,018 pounds, value $649; livers, 36,100 pounds, value $722; sounds, 350 pounds, value $14; spawn, 95,856 pounds, value $5,055; and mixed fish, 3,550 pounds, value $143.

BIOLOGICAL ASPECT

In 1933 the fishing fleet landing fares at Boston and Gloucester, Mass., and Portland, Maine, and operating on the fishing banks of the North Atlantic numbered 390 steam, motor, and sail vessels of 5 net tons capacity or greater as measured by the United States Customs Service. These made 12,214 trips to the fishing grounds, and were absent from port 52,651 days, or an average of 4.3 days per trip. This is 0.1 of a day less than the average length of a trip during 1932. The catches of edible fish landed at the 3 ports amounted to 270,145,894 pounds when the salted fish had been converted to the basis of fresh gutted or round fish as landed. This however does not represent the entire catch of edible fish of these vessels, for small quantities estimated at not more than 5 percent of their total catch were landed at ports in New England other than these three, at New York City, and at ports in New Jersey.

Otter trawls on all sizes of vessels accounted for 169,683,377 pounds, or 63 percent of the total landings. Line trawls were next in importance, accounting for 62,260,813 pounds, or 23 percent of the total landings.

The catch taken on Georges Bank and landed at the 3 ports amounted to 90,850,098 pounds, or 34 percent of the total; that on shore grounds, 45,602,905 pounds, or 17 percent; Browns Bank, 37,249,263 pounds, or 14 percent; Sable Island Bank, 30,415,492 pounds, or 11 percent; and South Channel, 27,617,824 pounds, or 10 percent. No other bank accounted for as much as 10,000,000 pounds in the landings at the 3 ports.

Landings by fishing vessels at the 3 principal New England ports, 1933

BY GEAR AND FISHING GROUNDS

Gear and fishing grounds	Vessels fishing	Trips	Days absent	Cod			Haddock		Hake	
				Large	Market	Scrod	Large	Scrod	Large	Small
Line trawls:	*Number*	*Number*	*Number*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Off Funks	1	1	14							
Grand Bank	6	13	283	122,871	24,501		20,394	3,392		
St. Peters Bank	2	2	31	3,700	7,740		8,400	425		
Off Newfoundland (Treaty Coast)	1	1	7	52,250	35,413					
Gulf of St. Lawrence	6	13	366	2,605,238	1,651,667	466,641			3,182	2,700
Quereau Bank	6	15	312	152,349	23,764				6,717	
The Gully	1	2	35	12,946	1,017					
Sable Island Bank (Western Bank)	21	35	528	706,595	595,330		913,375	29,900	34,590	5,175
Cape Shore	36	108	1,363	1,074,260	1,949,015	1,500	1,655,775	517,990	329,530	
Emerald Bank	8	9	85	101,040	115,575		252,800	20,825	13,545	
La Have Bank	23	51	618	942,705	929,094		1,225,550	90,650	134,875	
Roseway Bank	5	6	54	80,570	118,990		126,100	19,700	14,300	
Browns Bank	44	270	3,008	3,409,825	2,984,177	11,595	8,353,630	729,495	442,909	4,100
Georges Bank	46	160	1,562	2,916,335	1,184,478		3,447,125	197,810	158,293	300
Georges Bank (occasional)				54,790	6,600	740	10,700			
South Channel	33	193	1,488	1,441,952	1,703,218	2,350	4,084,004	172,290	568,425	
Off Highland Light	6	13	81	15,735	8,015		112,830	7,040	38,940	
Off Chatham	9	13	80	37,915	35,165	175	190,950	2,080	23,040	
Nantucket Shoals	3	5	52	19,470	58,400		14,200	1,300		
Cashes Bank	18	39	160	94,800	77,355	6,490	116,245	9,886	133,285	115,465
Fippenies Bank	13	23	101	48,160	27,025	620	109,395	17,172	99,180	750
Platts Bank	11	65	151	82,865	43,367	5,025	137,287	13,917	87,520	94,505
Jeffreys Ledge	17	149	312	83,605	47,693	4,080	327,984	16,666	135,478	138,915
Tillies Bank	1	1	12	190	70		8,600	700	1,400	
Middle Bank (Stellwagen Bank)	16	71	317	46,315	41,320	225	400,875	19,500	338,393	2,575
South	1	1	3	200	300		600			
Shore, general	89	863	2,174	647,501	471,443	28,140	1,368,550	40,618	499,500	353,564
Shore, general (occasional)				100	108		217			50
Total	[1] 135	2,122	13,197	14,754,282	12,140,840	527,581	22,885,586	1,911,356	3,063,102	718,099
Hand lines:										
Cape Shore	3	12	115	156,700	263,500		11,215		1,900	
Browns Bank	1	1	11	16,415	21,800		200			
Georges Bank	3	15	139	241,175	209,595		1,610		30	
South Channel	2	2	11	9,200	10,550		19,900	150	10,850	
Nantucket Shoals	3	8	74	31,355	45,625		100			

Shore, general	3	3	13	11,130	14,950		365		145	
Shore, general (occasional)				6,047	2,290	5				15
Total	[1] 9	41	363	472,022	568,310	5	33,390	150	12,925	15
Harpoons:										
Cape Shore	34	37	910							
Georges Bank	71	199	3,834							
South Channel	1	1	30							
Nantucket Shoals	5	5	96							
Shore, general	9	11	152							
Total	[1] 74	253	5,022							
Otter trawls, large:										
Gulf of St. Lawrence	1	3	35	12,675	33,900		85,750	68,600	55,100	
Sable Island Bank (Western Bank)	50	238	2,854	3,500,208	3,974,745	26,680	6,117,125	10,114,270	374,435	1,000
Cape Shore	8	9	109	76,240	99,950		135,370	198,370	13,870	
Emerald Bank	3	3	30	18,750	49,500	2,800	139,810	47,700	8,020	
La Have Bank	18	31	318	599,990	922,290	17,920	2,128,620	542,200	26,365	
Browns Bank	42	137	1,362	1,907,000	2,571,225	1,350	7,929,270	2,370,395	88,335	200
Georges Bank	46	672	6,583	8,238,780	9,509,000	78,100	29,820,990	11,428,905	690,225	1,400
South Channel	37	131	1,146	769,795	1,069,145	4,700	6,417,273	1,357,050	353,550	2,010
Off Chatham	1	1	9	3,800	20,200		84,200	43,800	300	
Nantucket Shoals	2	2	23	4,800	3,400		81,200	10,600	2,400	
Cashes Bank	1	1	3	13,480	30,800		79,100	17,900	700	
Shore, general	6	8	68	50,800	139,500		302,200	182,100	4,280	
Total	[1] 52	1,236	12,540	15,196,318	18,423,655	131,550	53,320,908	26,381,890	1,617,580	4,610
Otter trawls, medium:										
Sable Island Bank (Western Bank)	13	29	342	318,680	344,950		460,750	386,410	38,015	
Cape Shore	7	7	78	26,030	96,265		76,350	96,750	7,290	
Emerald Bank	1	1	13	2,380	6,000		3,600	6,800	3,000	
La Have Bank	6	11	124	154,150	171,425		198,700	80,100	5,690	
Browns Bank	20	47	458	353,000	435,165		1,472,870	360,825	22,700	
Georges Bank	41	375	3,401	1,872,835	1,919,510	3,295	7,183,296	2,373,385	124,775	80
Georges Bank (occasional)							21,700			
South Channel	34	199	1,613	372,684	814,285	2,000	4,346,610	1,054,655	127,685	
Off Highland Light	11	19	146	34,395	20,180		197,950	25,910	29,225	
Off Chatham	15	67	511	175,926	587,370	1,200	1,090,250	171,740	75,245	800
Nantucket Shoals	13	16	111	6,740	57,935	700	194,820	47,125	9,910	
Middle Bank (Stellwagen Bank)	2	11	46	13,455	14,290		105,865	4,010	45,305	
South	1	1	4							
Shore, general	46	528	1,515	161,080	288,619	12,655	1,158,665	79,655	69,595	111,058
Total	[1] 77	1,311	8,362	3,491,355	4,755,994	19,850	16,511,426	4,687,365	558,435	111,938

Landings by fishing vessels at the 3 principal New England ports, 1933—Continued

BY GEAR AND FISHING GROUNDS—Continued

Gear and fishing grounds	Vessels fishing	Trips	Days absent	Cod			Haddock		Hake	
				Large	Market	Scrod	Large	Scrod	Large	Small
Otter trawls, small:	*Number*	*Number*	*Number*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Georges Bank	3	5	31	850	5,500		26,565	6,000	1,550	
South Channel	2	14	100	8,595	66,300		260,780	42,950	2,550	
Off Chatham	2	2	11	735	29,300	300	13,990	1,700	400	
Nantucket Shoals	2	2	14		5,500		3,900	6,850		
Cashes Bank	1	1	9	1,200	1,500		23,500	9,000	300	
Fippenies Bank	1	1	6	1,530	440		2,225		4,500	
Shore, general	88	1,581	4,422	417,913	486,488	15,313	2,089,192	23,441	127,065	373,355
Total	[1] 90	1,606	4,593	430,823	595,028	15,613	2,420,152	89,941	136,365	373,355
Sink gill nets:										
Jeffreys Ledge	1	3	3	3,697	1,230		1,460			10
Shore, general	32	3,765	3,783	4,480,355	408,848	3,060	1,631,078	1,920	413,886	188,816
Total	[1] 32	3,768	3,786	4,484,052	410,078	3,060	1,632,538	1,920	413,886	188,826
Drift gill nets:										
Bay of Islands	2	2	122							
Sable Island Bank (Western Bank)	1	1	4							
Cape Shore	1	1	8							
Off Chatham	1	1	2							
Shore, general	60	356	733							
Total	[1] 62	361	869							
Purse seines:										
Gulf of St. Lawrence (occasional)										
Georges Bank	3	3	8							
Off Chatham	32	43	146							
Nantucket Shoals	11	12	52							
Middle Bank (Stellwagen Bank)	20	21	59							
South	48	70	240							
Shore, general	101	1,363	3,405	20	5		350	40	150	
Total	[1] 102	1,512	3,910	[2] 20	[2] 5		[2] 350	[2] 40	[2] 150	

Scallop drags:										
Georges Bank	1	1	6							
Shore, general	1	3	3							
Total	[1] 2	4	9							
Grand total	[1] 390	12,214	52,651	38,828,872	36,893,910	697,659	96,804,350	33,072,662	5,802,443	1,396,843

[1] Exclusive of duplication. [2] Incidental catch.

NOTE.—The three principal New England ports are Boston and Gloucester, Mass., and Portland, Maine. Otter trawls (including V-D trawls) are classified according to the size of the vessel. The weight of salted fish landed has been converted to the equivalent of fresh fish as landed. Only landings by vessels having a capacity of 5 net tons or greater are used in this tabulation. "Occasional" after the name of a bank or ground indicates that the vessel or vessels contributing to the catch as shown fished chiefly with another type of gear. In such cases the number of vessels fishing, number of trips, and number of days absent are shown under the principal types of gear used.

Gear and fishing grounds	Pollock	Cusk	Halibut	Flounders	Swordfish	Mackerel	Herring	Other	Total
Line trawls:	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Off Funks			26,171						26,171
Grand Bank			426,606						597,764
St. Peters Bank			52,032						72,297
Off Newfoundland (Treaty Coast)									87,663
Gulf of St. Lawrence		1,367	141,198	220					4,872,213
Quereau Bank		15,565	265,547		441				464,383
The Gully			51,196						65,159
Sable Island Bank (Western Bank)	20,085	84,230	142,706		662			350	2,532,998
Cape Shore	75,065	432,210	11,350	2,200				28,675	6,077,570
Emerald Bank	6,200	8,400	6,718					2,050	527,153
La Have Bank	34,120	199,610	46,935		1,573			14,440	3,619,552
Roseway Bank	6,050	21,290	2,972					1,375	391,347
Browns Bank	361,421	1,086,750	167,732	2,825	1,975			102,580	17,659,014
Georges Bank	157,005	202,330	225,873	2,075	2,493			8,135	8,502,252
Georges Bank (occasional)	3,620	430							76,880
South Channel	214,008	86,825	23,579	11,610	148	85		15,150	8,323,644
Off Highland Light	4,875	24,950	323	4,357				470	217,535
Off Chatham	12,965	3,150	1,118					3,755	310,313
Nantucket Shoals			12,230		176				105,776
Cashes Bank	23,355	173,190	2,191					2,783	755,045
Fippenies Bank	18,785	33,695	3,139					275	358,196
Platts Bank	33,675	164,600	2,188					11,414	676,363
Jeffreys Ledge	50,520	147,670	2,107					18,826	973,544
Tillies Bank	100	350	15						11,425
Middle Bank (Stellwagen Bank)	30,885	70,621	882					3,985	955,576
South	50	300							1,450
Shore, general	143,590	354,320	5,968	46,977		136		38,233	3,998,540
Shore, general (occasional)		10	5	500					990
Total	1,196,374	3,111,863	1,620,781	70,764	[2] 7,468	[2] 221		252,496	62,260,813

Landings by fishing vessels at the 3 principal New England ports, 1933—Continued

BY GEAR AND FISHING GROUNDS—Continued

Gear and fishing grounds	Pollock	Cusk	Halibut	Flounders	Swordfish	Mackerel	Herring	Other	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Hand lines:									
Cape Shore	30,300	11,500	279					20,705	496,099
Browns Bank	1,700	700						200	41,015
Browns Bank (occasional)			232						232
Georges Bank	32,200	9,500	185					5,030	499,325
Georges Bank (occasional)			301						301
South Channel	1,450	175	103	100					52,478
Nantucket Shoals	3,770		351					175	81,376
Shore, general	630								27,220
Shore, general (occasional)	30								8,387
Total	70,080	21,875	1,451	100				26,110	1,206,433
Harpoons:									
Quereau Bank (occasional)					3,930				3,930
The Gully (occasional)					1,216				1,216
Sable Island Bank (Western Bank) (occasional)					1,874				1,874
Cape Shore					449,247				449,247
Cape Shore (occasional)					294				294
La Have Bank (occasional)					902				902
Browns Bank (occasional)					7,306				7,306
Georges Bank					1,257,907			3,367	1,261,274
Georges Bank (occasional)					5,160				5,160
South Channel					12,602				12,602
Nantucket Shoals					42,554				42,554
Shore, general					46,934			987	47,921
Total					1,829,926			4,354	1,834,280
Otter trawls, large:									
Gulf of St. Lawrence	470		3,174	31,950				385	292,004
Sable Island Bank (Western Bank)	1,396,780	4,405	128,271	362,045		1,400		164,435	26,165,799
Cape Shore	34,730		1,678	20,775				7,170	588,153
Emerald Bank	12,800	500	703	5,300				5,500	291,383
La Have Bank	334,300	11,355	25,472	45,075				76,525	4,730,112
Browns Bank	1,105,040	30,130	79,045	173,400				344,660	16,600,050
Georges Bank	2,637,875	161,700	163,853	1,394,045		3,675	2,605	595,924	64,727,077
South Channel	540,375	9,955	33,228	318,634	300	325		180,175	11,056,515
Off Chatham	900		206	9,800					163,206
Nantucket Shoals	1,900			5,700				1,350	111,350

Cashes Bank	16 050		230	1, 075				240	159, 575
Shore, general	10 100	100	2, 453	8, 775				9, 802	710, 110
Total	6, 091, 320	218, 145	438, 313	2, 376, 574	[2] 300	[2] 5, 400	[2] 2, 605	1, 386, 166	125, 595, 334
Otter trawls, medium:									
Sable Island Bank (Western Bank)	76, 730		7, 196	68, 740				4, 250	1, 705, 721
Cape Shore	5, 275	7, 200	2, 487	8, 100				1, 800	327, 547
Emerald Bank	1, 200		116	2, 400				250	25, 746
La Have Bank	29, 500	10, 250	4, 784	28, 900				5, 380	688, 879
Browns Bank	139, 120	13, 500	11, 256	58, 085				75, 125	2, 941, 646
Georges Bank	246, 560	14, 625	32, 527	1, 749, 875	220	7, 900	850	107, 486	15, 637, 219
Georges Bank (occasional)			38						21, 738
South Channel	146, 530	3, 135	12, 931	753, 611		1, 150	650	127, 723	7, 763, 649
Off Highland Light	236, 600		133	22, 350		300		5, 410	572, 453
Off Chatham	51, 250		585	133, 220		525		106, 310	2, 394, 421
Nantucket Shoals	6, 420			84, 535		145		3, 130	411, 460
Middle Bank (Stellwagen Bank)	31, 450	14, 050	739	500				1, 195	230, 859
South								6, 700	6, 700
Shore, general	149, 515	1, 875	869	1, 226, 335				111, 088	3, 371, 009
Total	1, 120, 150	64, 635	73, 661	4, 136, 651	[2] 220	[2] 10, 020	[2] 1, 500	555, 847	36, 099, 047
Otter trawls, small:									
Georges Bank	150		765	37, 280				785	79, 445
South Channel	100		721	21, 220				5, 720	408, 936
Off Chatham	370			4, 010				430	51, 235
Nantucket Shoals			13	23, 330					39, 593
Cashes Bank	400		157	2, 700				500	39, 257
Fippenies Bank	150	1, 480							10, 325
Shore, general	55, 949	5, 903	4, 710	3, 544, 100				216, 776	7, 360, 205
Total	57, 119	7, 383	6, 366	3, 632, 640				224, 211	7, 988, 996
Sink gill nets:									
Jeffreys Ledge	2, 690	10						87	9, 184
Shore, general	3, 847, 380	7, 858	230	21, 504		751		31, 227	11, 036, 913
Total	3, 850, 070	7, 868	230	21, 504		[2] 751		31, 314	11, 046, 097
Drift gill nets:									
Bay of Islands							1, 055, 241		1, 055, 241
Sable Island Bank (Western Bank)						9, 100			9, 100
Cape Shore						13, 980			13, 980
Off Chatham						600		900	1, 500
Shore, general						980, 030		1, 723	981, 753
Total						1, 003, 710	1, 055, 241	2, 623	2, 061, 574

[2] Incidental catch.

Landings by fishing vessels at the 3 principal New England ports, 1933—Continued

BY GEAR AND FISHING GROUNDS—Continued

Gear and fishing grounds	Pollock	Cusk	Halibut	Flounders	Swordfish	Mackerel	Herring	Other	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Purse seines:									
Gulf of St. Lawrence (occasional)						54,000			54,000
Georges Bank						35,405			35,405
Off Chatham						716,238			716,238
Nantucket Shoals						214,885			214,885
Middle Bank (Stellwagen Bank)						323,775			323,775
South						2,645,138			2,645,138
Shore, general	10,360	100		250		17,471,311	154,500	422,375	18,059,461
Total	[2] 10,360	[2] 100		[2] 250		21,460,752	154,500	422,375	22,048,902
Scallop drags:									
Georges Bank								4,022	4,022
Shore, general								396	396
Total								4,418	4,418
Grand total	12,395,473	3,431,869	2,140,802	10,238,483	1,837,914	22,480,854	1,213,846	2,909,914	270,145,894

SUMMARY: BY FISHING GROUNDS

Fishing grounds	Vessels fishing	Trips	Days absent	Cod			Haddock		Hake	
				Large	Market	Scrod	Large	Scrod	Large	Small
	Number	*Number*	*Number*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Off Newfoundland:										
Area XVIII: Off Funks	1	1	14							
Area XIX:										
Bay of Islands	2	2	122							
Off Newfoundland (Treaty Coast)	1	1	7	52,250	35,413					
Area XX:										
Grand Bank	6	13	283	122,871	24,501		20,394	3,392		
St. Peters Bank	2	2	31	3,700	7,740		8,400	425		
Total	[1] 9	19	457	178,821	67,654		28,794	3,817		

Off Canada:										
Area XIX: Gulf of St. Lawrence	7	16	401	2,617,913	1,685,567	466,641	85,750	68,600	58,282	2,700
Area XXI:										
Quereau Bank	6	15	312	152,349	23,764				6,717	
The Gully	1	2	35	12,946	12,017					
Sable Island Bank (Western Bank)	84	303	3,728	4,525,483	4,915,025	26,680	7,491,250	10,530,580	447,010	6,175
Cape Shore	81	174	2,583	1,333,230	2,408,730	1,500	1,878,710	813,110	352,590	
Emerald Bank	12	13	128	122,170	171,075	2,800	396,210	75,325	24,565	
La Have Bank	45	93	1,060	1,696,845	2,022,809	17,920	3,552,870	712,950	166,930	
Roseway Bank	5	6	54	80,570	118,990		126,100	19,700	14,300	
Browns Bank	104	455	4,839	5,686,240	6,012,367	12,945	17,755,970	3,460,715	553,944	4,300
Total	[1] 149	1,077	13,140	16,227,746	17,359,341	528,486	31,286,860	15,680,980	1,624,368	13,175
Off United States:										
Area XXII:										
Georges Bank	187	1,430	15,564	13,324,765	12,834,683	82,135	40,511,986	14,006,100	974,873	1,780
South Channel	103	540	4,388	2,602,226	3,663,498	9,050	15,128,567	2,627,095	1,063,060	2,010
Off Highland Light	17	32	227	50,130	28,195		310,780	32,950	68,165	
Off Chatham	59	127	759	218,376	672,035	1,675	1,379,390	219,320	98,985	800
Nantucket Shoals	38	50	422	62,365	170,860	700	294,220	65,875	12,310	
Cashes Bank	20	41	172	109,480	109,655	6,490	218,845	36,786	134,285	115,465
Fippenies Bank	13	24	107	49,690	27,465	620	111,620	17,172	103,680	750
Platts Bank	11	65	151	82,865	43,367	5,025	137,287	13,917	87,520	94,505
Jeffreys Ledge	18	152	315	87,302	48,923	4,080	329,444	16,666	135,478	133,925
Tillies Bank	1	1	12	190	70		8,600	700	1,400	
Middle Bank (Stellwagen Bank)	36	103	422	59,770	55,610	225	506,740	23,510	383,698	2,575
Shore, general	279	8,481	16,268	5,774,946	1,812,251	59,173	6,550,617	327,774	1,114,621	1,026,858
Area XXIII: South	49	72	247	200	300		600			
Total	[1] 382	11,118	39,054	22,422,305	19,466,912	169,173	65,488,696	17,387,865	4,178,075	1,383,668
Grand total	[1] 390	12,214	52,651	38,828,872	36,893,910	697,659	96,804,350	33,072,662	5,802,443	1,396,843

[1] Exclusive of duplication.

[2] Incidental catch.

NOTE.—The weight of salted fish landed has been converted to the equivalent of fresh fish as landed. The roman numerals appearing in the stub of the above table refer to the numbers given these regions by the North American Council on Fishery Investigations.

Landings by fishing vessels at the 3 principal New England ports, 1933—Continued

SUMMARY: BY FISHING GROUNDS—Continued

Fishing grounds	Pollock	Cusk	Halibut	Flounders	Swordfish	Mackerel	Herring	Other	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Off Newfoundland:									
Area XVIII: Off Funks			26,171						26,171
Area XIX:									
Bay of Islands							1,055,241		1,055,241
Off Newfoundland (Treaty Coast)									87,663
Area XX:									
Grand Bank			426,606						597,764
St. Peters Bank			52,032						72,297
Total			504,809				1,055,241		1,839,136
Off Canada:									
Area XIX: Gulf of St. Lawrence	470	1,367	144,372	32,170		54,000		385	5,218,217
Area XXI:									
Quereau Bank		15,565	265,547		4,371				468,313
The Gully			51,196		1,216				66,375
Sable Island Bank (Western Bank)	1,493,595	88,635	278,173	430,785	2,536	10,500		169,035	30,415,492
Cape Shore	145,370	450,910	15,794	31,075	449,541	13,980		58,350	7,952,890
Emerald Bank	20,200	8,900	7,537	7,700				7,800	844,282
La Have Bank	397,920	221,215	77,191	73,975	2,475			96,345	9,039,445
Roseway Bank	6,050	21,290	2,972					1,375	391,347
Browns Bank	1,607,281	1,131,080	258,265	234,310	9,281			522,565	37,249,263
Total	3,670,886	1,938,962	1,101,047	810,015	469,420	78,480		855,855	91,645,624
Off United States:									
Area XXII:									
Georges Bank	3,077,410	388,585	423,542	3,183,275	1,265,780	46,980	3,455	724,749	90,850,098
South Channel	902,463	100,090	70,562	1,105,175	13,050	1,560	650	328,768	27,617,824
Off Highland Light	241,475	24,950	456	26,707		300		5,880	789,988
Off Chatham	65,485	3,150	1,909	147,030		717,363		111,395	3,636,913
Nantucket Shoals	12,090		12,594	113,565	42,730	215,030		4,655	1,006,994
Cashes Bank	39,805	173,190	2,578	3,775				3,523	953,877
Fippenies Bank	18,935	35,175	3,139					275	368,521
Platts Bank	33,675	164,600	2,188					11,414	676,363
Jeffreys Ledge	53,210	147,680	2,107					18,913	982,728
Tillies Bank	100	350	15						11,425
Middle Bank (Stellwagen Bank)	62,335	84,671	1,621	500		323,775		5,180	1,510,210
Shore, general	4,217,554	370,166	14,235	4,848,441	46,934	18,452,228	154,500	832,607	45,602,905
Area XXIII: South	50	300				2,645,138		6,700	2,653,288
Total	8,724,587	1,492,907	534,946	9,428,468	1,368,494	22,402,374	158,605	2,054,059	176,661,134
Grand total	12,395,473	3,431,869	2,140,802	10,238,483	1,837,914	22,480,854	1,213,846	2,909,914	270,145,894

Days' absence from port of fishing vessels landing fish at Boston and Gloucester, Mass., and Portland, Maine, 1933

Fishing grounds	January	February	March	April	May	June	July	August	September	October	November	December	Total
Off Newfoundland:													
Area XVIII: Off Funks								14					14
Area XIX:													
Bay of Islands												122	122
Off Newfoundland (Treaty Coast)							7						7
Area XX:													
Grand Bank			29	61	18	131	37	7					283
St. Peters Bank		21									10		31
Total		21	29	61	18	131	44	21			10	122	457
Off Canada:													
Area XIX: Gulf of St. Lawrence					109	32	117	54	44	31	14		401
Area XXI:													
Quereau Bank		20	43		69	24	21	62	73				312
The Gully			21					14					35
Sable Island Bank (Western Bank)	106	29	96	126	279	56	56	98	507	493	851	1,031	3,728
Cape Shore	90	41	6	9	54	65	86	128	940	192	466	506	2,583
Emerald Bank	8		8	12	13	8	22			26		31	128
La Have Bank	170	7	86	122	112	48	93	80	61	78	35	168	1,060
Roseway Bank	11	16								10		17	54
Browns Bank	538	671	540	1,115	749	245	188	49	42	236	185	281	4,839
Total	923	784	800	1,384	1,385	478	583	485	1,667	1,066	1,551	2,034	13,140
Off United States:													
Area XXII:													
Georges Bank	1,344	1,400	1,429	557	565	1,435	2,906	2,497	1,053	1,281	739	358	15,564
South Channel	246	228	347	216	480	658	290	671	587	216	361	88	4,388
Off Highland Light	53	27	8	5		8	12		6	4	41	63	227
Off Chatham	87	33	44	40	77	46	281	24	26	59	15	27	759
Nantucket Shoals	10		6	24	35	56	13	46	132	66	34		422
Cashes Bank	13	3	12	30	33				9	15	29	28	172
Fippenies Bank	22	14		2					3	13	13	40	107
Platts Bank	17	26	13	9					16	25	29	16	151
Jeffries Ledge	63	51	41	8					12	38	54	48	315
Tillies Bank		12											12
Middle Bank (Stellwagen Bank)	45	57	21			57	2		19	69	70	82	422
Shore, general	976	838	1,037	1,328	1,551	1,519	1,459	1,679	1,521	1,927	1,524	909	16,268
Area XXIII: South					247								247
Total	2,876	2,689	2,958	2,219	2,988	3,779	4,963	4,917	3,384	3,713	2,909	1,659	39,054
Grand total	3,799	3,494	3,787	3,664	4,391	4,388	5,590	5,423	5,051	4,779	4,470	3,815	52,651

NOTE.—The Roman numerals appearing in the stub of the above table refer to the numbers given these areas by the North American Council on Fishery Investigations.

MACKEREL FISHERY OF THE ATLANTIC COAST [5]

That part of the 1933 mackerel catch taken by the purse seines and drift gill nets amounted to 29,532,600 pounds, a decrease of 37 percent as compared with corresponding statistics for the previous year. The decrease resulted mainly from voluntary curtailment of the fishery on the part of the purse-seine fleet. It is estimated that normal exploitation of the fishery would have produced an increase rather than a decrease in total catch in 1933 as compared with 1932.

The statistics in the following table were obtained by combining the figures of mackerel landed at Boston and Gloucester, Mass., and Portland, Maine, with those obtained by agents stationed at other ports where mackerel are landed. The figures include approximately 1,000,000 pounds of mackerel that were brought to port but not landed due to lack of market. The statistics include the catches made by all purse seine and drift gill net vessels over 5 net tons (Customs measure) and also the catch of the larger of the boats of less than 5 net tons.

Data in the mackerel fishery are also included in the catch of States.

Mackerel fishery of the Atlantic coast, 1933

CATCH: BY AREAS IN 7-DAY PERIODS

Date	Southern (Area XXIII)		Block Island (Area XXII, west of Nantucket Shoals)		Gulf of Maine (Area XXII north of Nantucket Shoals)		Cape Shore (Area XXI)	Total
	Seiners	Netters	Seiners	Netters	Seiners	Netters	Seiners	
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Apr. 9–15	40,200	8,300						48,500
Apr. 16–22	1,160,600	10,900						1,171,500
Apr. 23–29	390,500	3,900						394,400
Apr. 30–May 6	989,600	228,300						1,217,900
May 7–13	238,900	92,500						331,400
May 14–20	731,200	205,500	2,552,200					3,488,900
May 21–27		25,600	1,348,400		10,400	200		1,384,600
May 28–June 3		40,900	229,100	12,500		22,700		305,200
June 4–10			1,064,300	12,600	16,100	97,400	1,200	1,191,600
June 11–17			484,800		55,000	48,900		588,700
June 18–24			519,300	3,000	97,600	41,100		661,000
June 25–July 1			70,300		479,500	20,900		570,700
July 2–8			39,800		401,600	26,500		467,900
July 9–15					901,500	14,100		915,600
July 16–22					799,700	24,800		824,500
July 23–29					1,086,200	9,700		1,095,900
July 30–Aug. 5					1,476,500	11,600		1,488,100
Aug. 6–12					680,300	1,600		681,900
Aug. 13–19					1,377,400	3,300		1,380,700
Aug. 20–26					1,668,600	1,000		1,669,600
Aug. 27–Sept. 2					1,472,400			1,472,400
Sept. 3–9					1,082,800			1,082,800
Sept. 10–16					299,500			299,500
Sept. 17–23					519,900	2,000		521,900
Sept. 24–30					1,591,700			1,591,700
Oct. 1–7					329,900			329,900
Oct. 8–14					1,755,900	300		1,756,200
Oct. 15–21					1,139,700	600		1,140,300
Oct. 22–28					361,300	1,500		362,800
Oct. 29–Nov. 4					131,900	22,000		153,900
Nov. 5–11					8,100	32,300		40,400
Nov. 12–18						138,700		138,700
Nov. 19–25						159,400		159,400
Nov. 26–Dec. 2						420,600		420,600
Dec. 3–9						182,200		182,200
Dec. 10–16						1,000		1,000
Dec. 17–23						300		300
Total	3,551,000	615,900	6,308,200	28,100	17,743,500	1,284,700	1,200	29,532,600

[5] This section was prepared by O. E. Sette of the Division of Scientific Inquiry of the Bureau.

Mackerel fishery of the Atlantic coast, 1933—Continued

OPERATING UNITS AND CATCH: BY FLEET CLASSIFICATION AND GROUNDS

Designation	Vessels and boats	Tonnage	Crew	Trips	Total catch
SOUTHERN—AREA XXIII					
Seiners:	*Number*	*Net tons*	*Number*	*Number*	*Pounds*
Regular vessels	35	1,561	445	160	3,310,700
Miscellaneous vessels	9	289	110	13	240,300
Netters:					
Regular vessels	18	354	125	120	587,100
Miscellaneous vessels	1	8	5	3	17,000
Miscellaneous boats	2			4	11,800
Total	[1] 63	2,212	685	300	4,166,900
BLOCK ISLAND—AREA XXII					
(West of Nantucket Shoals only)					
Seiners:					
Regular vessels	57	2,303	715	256	6,174,400
Miscellaneous vessels	5	102	50	8	133,800
Netters: Regular vessels	3	32	17	6	28,100
Total	[1] 65	2,437	782	270	6,336,300
GULF OF MAINE—AREA XXII					
(North of Nantucket Shoals only)					
Seiners:					
Regular vessels	61	2,057	715	1,160	15,649,500
Miscellaneous vessels	26	482	216	165	1,318,500
Miscellaneous boats	21			114	775,500
Netters:					
Spring and summer:					
Miscellaneous vessels	13	179	78	44	86,200
Miscellaneous boats	48			239	237,600
Fall:					
Regular vessels	34	856	262	287	877,100
Miscellaneous vessels	20	372	134	38	53,700
Miscellaneous boats	13			32	30,100
Total	[1] 154	3,946	1,405	2,079	19,028,200
CAPE SHORE—AREA XXI					
Seiners	1	67	14	1	1,200
Total seiners	[1] 93			1,877	27,603,900
Total netters	[1] 72			773	1,928,700
Grand total	[1] 129			2,650	[2] 29,532,600

[1] Exclusive of duplication and of boats.

[2] Of this total approximately 21,430,000 pounds were tinkers (under 1½ pounds each) and 8,102,000 pounds were of larger sizes. There were no bullseye mackerel landed by the fleet.

NOTE.—The roman numerals appearing in the stub of the above table refer to the numbers given these areas by the North American Council on Fishery Investigations.

FISHERIES OF THE MIDDLE ATLANTIC STATES

(Area XXIII) [6]

The yield of the commercial fisheries of the Middle Atlantic States (New York, New Jersey, Pennsylvania, and Delaware) during 1933 amounted to 169,753,735 pounds, valued at $4,811,055 to the fishermen, representing an increase of 20 percent in volume and 3 percent in value as compared with the catch in the previous year. These fisheries gave employment to 8,574 fishermen, as compared with 8,370 in 1932.

There were 398 fishery wholesale and manufacturing establishments in the 4 States in 1933 as compared with 418 in 1931 when the most recent previous survey of such concerns was made. In 1933 these establishments employed 5,631 persons, paid $6,085,981 in salaries and wages, and produced manufactured products (canned, cured, packaged, and byproducts), valued at $11,219,966. In 1931 the wholesale and manufacturing firms employed 4,989 persons, paid $7,042,586 in salaries and wages, and produced manufactured products valued at $12,451,810.

Fisheries of the Middle Atlantic States, 1933

SUMMARY OF CATCH

Product	New York		New Jersey		Pennsylvania	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Fish	28,305,152	$988,984	79,038,724	$1,138,015	52,232	$2,980
Shellfish, etc	11,606,280	1,463,581	14,224,713	1,008,309		
Total	39,911,432	2,452,565	93,263,437	2,146,324	52,232	2,980

Product	Delaware		Total	
	Pounds	*Value*	*Pounds*	*Value*
Fish	35,375,380	$136,191	142,771,488	$2,266,170
Shellfish, etc	1,151,254	72,995	26,982,247	2,544,885
Total	36,526,634	209,186	169,753,735	4,811,055

OPERATING UNITS: BY STATES

Item	New York	New Jersey	Pennsylvania	Delaware	Total
	Number	*Number*	*Number*	*Number*	*Number*
Fishermen:					
On vessels	825	1,267		350	2,442
On boats and shore:					
Regular	1,509	954		34	2,497
Casual	1,482	1,622	53	478	3,635
Total	3,816	3,843	53	862	8,574
Vessels:					
Steam	9			10	19
Net tonnage	1,773			1,237	3,010
Motor	160	208		16	384
Net tonnage	2,422	3,470		229	6,121

[6] This is the number given to this area by the North American Council on Fishery Investigations. It should be explained that there are included in this area craft whose principal fishing ports are in the area but at times fish elsewhere. A notable example is the southern trawl fishery which extends into Area XXIV. It should be observed that the persons engaged, gear and craft employed, and catch of the seed oyster fishery are not included among the statistics of the fishery for market oysters and other species but are shown in separate tables in this section. For a clearer understanding of the statistics published in this section, the reader is referred to the section in the latter part of this document entitled "Statistical survey procedure."

Fisheries of the Middle Atlantic States, 1933—Continued

OPERATING UNITS: By States—Continued

Item	New York	New Jersey	Pennsylvania	Delaware	Total
Vessels—Continued.	*Number*	*Number*	*Number*	*Number*	*Number*
Sail		3		1	4
Net tonnage		24		8	32
Total vessels	169	211		27	407
Total net tonnage	4,195	3,494		1,474	9,163
Boats:					
Motor	636	1,029	5	77	1,747
Other	1,188	740	14	181	2,123
Accessory boats	39	88		30	157
Apparatus:					
Purse seines:					
Menhaden		8		10	18
Length, yards		2,806		3,140	5,946
Other	2	7			9
Length, yards	800	2,510			3,310
Haul seines	71	105	12	61	249
Length, yards	5,926	9,040	1,635	18,990	35,591
Gill nets:					
Anchor	46	10			56
Square yards	40,832	5,830			46,662
Drift	254	605	7	63	929
Square yards	423,369	448,333	5,200	145,720	1,022,622
Runaround	43	69		33	145
Square yards	124,822	210,695		41,450	376,967
Stake	49	251		99	399
Square yards	23,161	46,882		7,770	77,813
Lines:					
Hand	225	463		12	700
Hooks	441	720		24	1,185
Trawl	693	712		2	1,407
Hooks	187,600	420,400		1,300	609,300
Troll	20	404			424
Hooks	20	404			424
Trot with baits or snoods		9			9
Baits or snoods		9,900			9,900
Trot with hooks	14				14
Hooks	1,495				1,495
Pound nets	301	153		32	486
Weirs		88			88
Stop nets	24	65		7	96
Square yards	11,258	50,615		1,820	63,693
Fyke nets	849	1,369		449	2,667
Dip nets	5	34		51	90
Cast nets		3			3
Scap nets	279				279
Drag nets	47	14			61
Yards at mouth	94	28			122
Otter trawls	130	67			197
Yards at mouth	2,791	1,514			4,305
Wire baskets		12			12
Pots:					
Crab		10			10
Eel	3,877	2,571		876	7,324
Lobster	18,340	28,071		165	46,576
Harpoons	18	1			19
Spears	77	92			169
Dredges:					
Clam	14	43		33	90
Yards at mouth	12	48		47	107
Crab	6	69		11	86
Yards at mouth	14	90		20	124
Mussel	2				2
Yards at mouth	2				2
Oyster	78	259		16	353
Yards at mouth	115	309		23	447
Scallop	250	10			260
Yards at mouth	365	34			399
Tongs	837	783		32	1,652
Rakes	568	509			1,077
Forks	271	51			322
Hoes		176			176
Gaffs		2			2

Fisheries of the Middle Atlantic States, 1933—Continued

CATCH: BY STATES

Species	New York		New Jersey		Pennsylvania		Delaware		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	218,257	$5,023	13,990	$244	8,775	$88	1,148,980	$4,786	1,390,002	$10,141
Bluefish	1,131,721	56,097	2,115,304	76,146			4,720	236	3,251,745	132,479
Bonito	159,007	9,541	88,407	4,103					247,414	13,644
Butterfish	1,498,212	61,339	2,912,214	119,319					4,410,426	180,658
Carp	219,497	17,574	143,471	16,047	640	64	26,420	1,589	390,028	35,274
Catfish and bullheads	19,008	2,561	55,380	3,321			1,845	116	76,233	5,998
Cero			2,500	75					2,500	75
Cod	4,260,669	112,583	3,229,886	99,688			2,240	69	7,492,795	212,340
Crevalle			7,254	141					7,254	141
Croaker	80,147	1,531	1,901,073	44,945			67,130	1,068	2,048,350	47,544
Cusk	3,500	99							3,500	99
Dolphin			111	9					111	9
Drum:										
Black	447	9							447	9
Red or redfish			8,770	126			520	16	9,290	142
Eels:										
Common	290,470	27,446	336,466	28,565			53,140	3,892	680,076	59,903
Conger	5,260	257	11,163	432					16,423	689
Flounders	5,191,128	192,032	4,051,797	170,601			9,450	492	9,252,375	363,125
Frigate mackerel	81,886	1,234	19,754	243					101,640	1,477
Goosefish			10,000	38					10,000	38
Grayfish			6,739	135					6,739	135
Haddock	8,506,679	248,282							8,506,679	248,282
Hake	139,954	2,811	22,171	360					162,125	3,171
Halibut	52,508	7,280							52,508	7,280
Herring:										
Round			750	8					750	8
Sea	74,987	610	590,465	5,171					665,452	5,781
Hickory shad	1,300	25							1,300	25
Kingfish or "king mackerel"			140	5					140	5
King whiting or "kingfish"	73,223	4,057	84,039	10,932					157,262	14,989
Mackerel	343,717	12,353	318,047	9,692					661,764	22,045
Menhaden	201,176	938	45,774,117	122,929			33,600,000	111,700	79,575,293	235,567
Mullet	2,500	96	82,747	6,234			233,000	2,390	318,247	8,720
Mummichog	25,050	2,505	25,925	1,939					50,975	4,444
Pigfish			203	5					203	5
Pike or pickerel	420	53							420	53
Pollock	770,231	11,551	6,280	94					776,511	11,645
Pompano			317	77					317	77
Scup or porgy	1,478,153	26,649	4,881,364	65,293					6,359,517	91,942
Sea bass	505,688	23,668	1,969,143	63,601					2,474,831	87,269

Sea robin	18,758	276	10,805	109					29,563	385
Shad	351,786	28,761	457,458	45,181	2,217	392	22,325	1,993	833,786	76,327
Sharks	2,500	35	9,610	203					12,110	238
Sheepshead			9	1					9	1
Silversides	18,500	1,838	4,830	676					23,330	2,514
Skates	725	7	82,976	712					83,701	719
Smelts	245	47							245	47
Spanish mackerel			6,419	287					6,419	287
Spot	22,765	463	473,565	6,958			31,920	903	528,250	8,324
Squeteagues or "sea trout":										
Gray	823,634	38,147	6,927,381	185,597			123,180	3,341	7,874,195	227,085
Spotted			30	2					30	2
Squirrel hake			52,765	402					52,765	402
Striped bass	18,954	2,724	9,122	1,770			11,700	1,382	39,776	5,876
Sturgeon	1,851	311	26,713	2,130			1,200	300	29,764	2,741
Suckers	28,624	2,365	102,575	8,402	40,600	2,436			171,799	13,263
Sunfish	1,690	132							1,690	132
Swellfish	2,000	200							2,000	200
Swordfish	100,966	12,441	1,600	128					102,566	12,569
Tautog	61,158	1,584	70,923	10,048					132,081	11,632
Thimble-eyed mackerel			24,475	374					25,475	374
Tilefish	1,350,000	67,500	25	1					1,350,025	67,501
Tomcod	7,690	338							7,690	338
Tuna or "horse mackerel"	6,736	270	36,492	1,656					43,228	1,926
Whitebait	3,000	450							3,000	450
White perch	15,182	1,119	29,420	2,666			30,650	1,490	75,252	5,275
Whiting	106,111	1,028	2,040,544	20,134			480	30	2,147,135	21,192
Wolffish	25,625	576							25,625	576
Yellow perch	1,857	168					6,480	398	8,337	566
Total	28,305,152	988,984	79,038,724	1,138,015	52,232	2,980	35,375,380	136,191	142,771,488	2,266,170
SHELLFISH, ETC.										
Crabs:										
Hard	149,383	5,437	709,410	18,356			96,600	1,295	955,393	25,088
King			2,183,772	5,931			556,600	595	2,750,372	6,526
Soft	825	225	57,363	12,239			36,000	7,200	94,188	19,664
Lobsters	346,496	67,256	364,220	67,629			12,840	2,568	723,556	137,453
Shrimp	59,912	11,981	25,741	3,328					85,653	15,309
Squid	444,938	6,696	347,312	8,760					792,250	15,456
Clams:										
Hard, public [1]	1,923,610	271,295	1,405,204	215,579			191,300	30,310	3,520,114	517,184
Hard, private [1]	21,040	4,601	70,461	8,721			9,640	1,898	101,141	15,220
Soft, public [2]	222,150	18,760	913,560	45,752					1,135,710	64,512
Surf or skimmer	379,500	18,380	146,313	5,732					525,813	24,112
Conchs	35,000	2,095	54	2					35,054	2,097
Mussels, sea	47,400	3,150	5,200	200					52,600	3,350

[1] Statistics on hard clams are based on yields of 8 pounds of meats to the bushel in New York, 8.96 in New Jersey, and 10 pounds in Delaware.
[2] Statistics on soft clams used in this table are based on yields of 16 pounds of meats to the bushel in New York and 20 pounds in New Jersey.

Fisheries of the Middle Atlantic States, 1933—Continued

CATCH: BY STATES—Continued

Species	New York		New Jersey		Pennsylvania		Delaware		Total	
SHELLFISH, ETC.—continued										
Oysters:[3]	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Market, public, spring	19,250	$2,662	10,966	$1,138			39,600	$5,140	69,816	$8,940
Market, public, fall	81,984	9,512	26,606	1,792					108,590	11,304
Market, private, spring	2,761,525	381,138	3,718,539	282,883			24,520	2,985	6,504,584	667,006
Market, private, fall	3,229,025	439,378	3,855,564	301,288			165,240	20,065	7,249,829	760,731
Periwinkles and cockles			100	2					100	2
Scallops:										
Bay	48,000	17,100	594	30					48,594	17,130
Sea	1,823,492	193,445	373,589	22,402					2,197,081	215,847
Terrapin, diamond-back			502	145			410	260	912	405
Turtles, snapper			2,500	250			8,504	679	11,004	929
Bloodworms	9,250	8,390	1,740	1,505					10,990	9,895
Sandworms	3,500	2,080	5,403	4,645					8,903	6,725
Total	11,606,280	1,463,581	14,224,713	1,008,309			1,151,254	72,995	26,982,247	2,544,885
Grand total	39,911,432	2,452,565	93,263,437	2,146,324	52,232	$2,980	36,526,634	209,186	169,753,735	4,811,055

[3] Statistics on oysters used in this table are based on yields of 7 pounds of meats to the bushel in New York, 8.70 in New Jersey, and 7.88 in Delaware.

NOTE.—Of the total catch in New Jersey, 7,500 pounds of shad, valued at $600, were caught in the St. Johns River in Florida, and 1,447,252 pounds of fishery products, valued at $47,109, were taken in the southern trawl fishery off southern New Jersey, Maryland, Virginia, and North Carolina. Of the total catch in New York, 1,024,291 pounds of fishery products, valued at $35,928, were taken in the southern trawl fishery. The products of the southern trawl fishery consisted principally of croaker, flounders, scup, and sea bass.

Fisheries of the Middle Atlantic States, 1933—Continued

PRODUCTION OF CERTAIN SHELLFISH IN NUMBER AND BUSHELS

Product	New York		New Jersey		Delaware		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Crabs:								
Hard ---------- number	448,149	$5,437	2,128,230	$18,356	289,800	$1,295	2,866,179	$25,088
King ---------- do			545,943	5,931	141,650	595	687,593	6,526
Soft ---------- do	3,300	225	172,089	12,239	144,000	7,200	319,389	19,664
Clams:								
Hard, public ---bushels	240,451	271,295	156,831	215,579	19,130	30,310	416,412	517,184
Hard, private ----- do	2,630	4,601	7,864	8,721	964	1,898	11,458	15,220
Soft, public ------- do	13,884	18,760	45,678	45,752			59,562	64,512
Surf or skimmer --- do	31,625	18,380	11,705	5,732			43,330	24,112
Conchs ---------- do	1,944	2,095	3	2			1,947	2,097
Mussels, sea ------ do	4,740	3,150	400	200			5,140	3,350
Oysters:								
Market, public, spring bushels	2,750	2,662	1,260	1,138	5,025	5,140	9,035	8,940
Market, public, fall bushels	11,712	9,512	3,058	1,792			14,770	11,304
Market, private, spring bushels	394,504	381,138	427,418	282,883	3,112	2,985	825,034	667,006
Market, private, fall bushels	461,289	439,378	443,168	301,288	20,969	20,065	925,426	760,731
Periwinkles and cockles bushels			8	2			8	2
Scallops:								
Bay ---------- do	9,600	17,100	99	30			9,699	17,130
Sea ---------- do	303,915	193,445	62,265	22,402			366,180	215,847

SEED OYSTER FISHERY

Item	New York	New Jersey	Delaware	Total
OPERATING UNITS				
Fishermen:	*Number*	*Number*	*Number*	*Number*
On vessels	24	1,514	48	1,586
On boats and shore.				
Regular	230	68		298
Casual		107	43	150
Total	254	1,689	91	2,034
Vessels:				
Motor	7			7
Net tonnage	69			69
Sail		139	7	146
Net tonnage		2,881	96	2,977
Total vessels	7	139	7	153
Total net tonnage	69	2,881	96	3,046
Boats:				
Motor	120	86		206
Other	30	81	41	152
Apparatus:				
Dredges	6	278	16	300
Yards at mouth	9	333	21	363
Tongs	194	140	40	374
Rakes	45	34		79

CATCH	New York		New Jersey		Delaware		Total	
	Bushels	*Value*	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*
Oysters:								
Seed, public, spring	42,600	$20,550	926,000	$232,582	34,940	$8,730	1,003,540	$261,862
Seed, public, fall	12,500	5,500	11,000	2,750			23,500	8,250
Seed, private, spring	40,290	39,540					40,290	39,540
Seed, private, fall	38,290	38,290					38,290	38,290
Total	133,680	103,880	937,000	235,332	34,940	8,730	1,105,620	347,942

NOTE.—Of the total number of persons fishing for seed oysters, 1,881 are duplicated among those fishing for market oysters or other species. Similarly the following craft and gear are duplicated: 87 vessels, 79 motor boats, 92 other boats, 172 dredges, 327 tongs, and 15 rakes.

Industries related to the fisheries of the Middle Atlantic States, 1933

OPERATING UNITS, SALARIES, AND WAGES

Item	New York	New Jersey	Pennsylvania	Delaware	Total
Transporting:					
Persons engaged:	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	100	10	----------	----------	110
On boats	----------	92	----------	----------	92
Total	100	102	----------	----------	202
Vessels:					
Motor	26	4	----------	----------	30
Net tonnage	580	49	----------	----------	629
Boats	----------	87	----------	----------	87
Wholesale and manufacturing:					
Establishments	210	124	49	15	398
Persons engaged:					
Proprietors	184	116	44	14	358
Salaried employees	775	159	113	20	1,067
Wage earners:					
Average for season	1,896	1,381	477	452	4,206
Average for year	1,457	906	396	189	2,948
Paid to salaried employees	$2,164,542	$311,040	$200,846	$12,460	$2,688,888
Paid to wage earners	$2,088,832	$785,657	$403,433	$119,171	$3,397,093
Total salaries and wages	$4,253,374	$1,096,697	$604,279	$131,631	$6,085,981
Fishermen manufacturing	348	157	----------	7	512

PRODUCTS MANUFACTURED

Item	New York		New Jersey		Pennsylvania		Delaware	
By manufacturing establishments:								
Buffalofish, smoked pounds	*Quantity* 440,000	*Value* $131,750	*Quantity* ----------	*Value* ----------	*Quantity* ----------	*Value* ----------	*Quantity* ----------	*Value* ----------
Butterfish, smoked do	408,600	100,050	80,896	$20,269	(1)	(1)	----------	----------
Carp, smoked do	91,000	27,200	(1)	(1)	----------	----------	----------	----------
Chubs, cisco, lake herring, and tullibee, smoked pounds	2,495,880	534,914	(1)	(1)	333,000	$93,000	----------	----------
Cod:								
Fresh fillets do	2,365,354	306,896	----------	----------	----------	----------	----------	----------
Smoked fillets do	66,305	13,700	(1)	(1)	----------	----------	----------	----------
Flounders, fresh fillets pounds	669,780	108,678	----------	----------	----------	----------	----------	----------
Haddock, fresh fillets pounds	1,500,661	207,200	----------	----------	----------	----------	----------	----------
Hake, fresh fillets do	297,000	31,440	----------	----------	----------	----------	----------	----------
Herring, sea:								
Kippered do	55,100	10,210	(1)	(1)	(2)	(2)	----------	----------
Bloaters do	(1)	(1)	(1)	(1)	540,000	30,250	----------	----------
Lake trout, smoked do	90,400	28,650	(1)	(1)	(1)	(1)	----------	----------
Mackerel, smoked do	77,300	13,602	(1)	(1)	(1)	(1)	----------	----------
Paddlefish or spoonbill cat, smoked pounds	338,600	155,920	----------	----------	----------	----------	----------	----------
Salmon:								
Kippered do	269,000	82,700	(3)	(3)	(1)	(1)	----------	----------
Smoked do	5,427,102	1,494,928	478,966	130,864	(1)	(1)	----------	----------
Shad, smoked do	149,000	30,400	(1)	(1)	(1)	(1)	----------	----------
Sturgeon, smoked do	1,084,000	548,660	205,987	149,781	(1)	(1)	----------	----------
Sturgeon, caviar, canned standard cases	2,596	333,530	----------	----------	----------	----------	----------	----------
Whitefish, smoked pounds	1,104,000	297,750	(1)	(1)	340,000	85,200	----------	----------
Whitefish roe and caviar, canned standard cases	122	4,569	----------	----------	----------	----------	----------	----------
Crabs, king, scrap and meal tons	----------	----------	278	8,150	----------	----------	----------	----------
Clams:								
Hard, fresh-shucked gallons	----------	----------	1,875	2,723	4,110	14,495	----------	----------
Soft, fresh-shucked gallons	----------	----------	16,360	14,902	----------	----------	----------	----------

[1] The production of this item is included under "Unclassified products."
[2] Kippered sea herring is included with bloaters.
[3] Kippered salmon is included with smoked salmon.

Industries related to the fisheries of the Middle Atlantic States, 1933—Continued

PRODUCTS MANUFACTURED—Continued

Item	New York		New Jersey		Pennsylvania		Delaware	
By manufacturing establishments—Continued.								
Marine-shell products:	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Buttons, gross	825,708	$509,920	1,617,128	$1,073,275	1,143,660	$589,743		
Novelties		46,813		[4] 81,255		45,739		
Oysters, fresh-shucked, gallons	265,967	469,016	372,848	577,217	60,958	139,056	39,671	$48,434
Oyster-shell products:								
Poultry feed, tons			4,553	44,864	3,646	33,119	(1)	(1)
Lime, do			1,610	6,629	1,114	4,570	(1)	(1)
Unclassified products:								
Fillets, fresh and frozen, pounds	[5] 145,492	[5] 33,972						
Smoked, do	([6])	([6])	[7] 581,849	[7] 162,800	[8] 1,044,000	[8] 294,270		
Canned, standard cases	[9] 6,234	[9] 75,343	([6])	([6])				
Miscellaneous		[10] 373,591		[11] 781,226				[12] 200,331
Total		5,971,402		3,053,955		1,329,442		248,765
By fishermen:								
Bluefish, smoked, pounds			50	2				
Eels:								
Smoked, do	2,150	537	5,450	1,675				
Pickled, do			48	14				
Herring, sea, smoked, pounds			4,900	196				
Mackerel, smoked, do			100	20				
Squirrel hake, smoked, pounds			50	5				
Whiting, smoked, do			50	5				
Clams, soft, fresh-shucked, gallons			6,840	5,244				
Scallops:								
Bay, fresh-shucked, gallons	5,400	17,100						
Sea, fresh-shucked, gallons	204,555	192,647	35,603	33,813				
Sturgeon roe, salted, pounds			50	33				
King crab scrap, tons			214	6,655			80	2,200
Total		210,284		47,662				2,200
Grand total		6,181,686		3,101,617		1,329,442		250,965

[1] The production of this item is included under "Unclassified products."
[4] Includes the value of a small quantity of fresh-water mussel shell novelties.
[5] Includes fresh fillets of bluefish, halibut, mackerel, pollock, red snapper, and frozen fillets of salmon.
[6] This has been included under "Miscellaneous."
[7] Includes smoked bluefish, carp, chubs, cisco, cod, eels, flounders, goosefish, haddock, lake trout, mackerel, sea herring (bloaters), shad, tullibee, and whitefish and kippered sea herring.
[8] Includes smoked alewives, butterfish, haddock fillets, haddock (finnan haddie), lake trout, mackerel, salmon, shad, and sturgeon, and kippered salmon and shad.
[9] Includes canned clam products, pickled eels, terrapin and turtle products, sea mussels, and salmon caviar.
[10] Includes smoked eels, haddock fillets, and sea herring (bloaters); fish meal; and fresh-water mussel shell products.
[11] Includes canned hard clams, canned hard clam chowder, canned oysters, shredded salt cod, and fresh-cooked crab meat.
[12] Includes menhaden dry and acid scrap and oil, and oyster-shell products.

NOTE.—The total value of products for the Middle Atlantic States was as follows: By manufacturing establishments, $10,603,564; and by fishermen, $260,146. Some of the above products may have been manufactured from fishery products imported from another State or a foreign country; therefore, they cannot be correlated directly with the catch within the State. Of the total number of persons engaged on transporting craft, 135 have been included as fishermen and among the total number of persons engaged in the preparation of fishermen's prepared products, 511 have been included as fishermen.

NEW YORK

Fisheries of New York, 1933

OPERATING UNITS: BY GEAR

Item	Purse seines, other than menhaden	Haul seines	Gill nets				Lines			
			Anchor	Drift	Runaround	Stake	Hand	Trawl	Troll	Trot with hooks
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:										
On vessels	17		6	9	18		36	77		
On boats and shore:										
Regular		57	27	51	46	9	104	90	5	
Casual		98	6	174	1	62	32	18	5	14
Total	17	155	39	234	65	71	172	185	10	14
Vessels:										
Motor	2		3	1	6		6	8		
Net tonnage	41		22	21	61		135	219		
Boats:										
Motor			12		23		44	53	5	
Other		68	13	114	2	45	16	6		14
Accessory boats	2							37		
Apparatus:										
Number	2	71	46	254	43	49	225	693	20	14
Length, yards	800	5,926								
Square yards			40,832	423,369	124,822	23,161				
Hooks, baits, or snoods							441	187,600	20	1,495

Item	Pound nets	Stop nets	Fyke nets	Dip nets	Scap nets	Drag nets	Otter trawls	Pots		Harpoons
								Eel	Lobster	
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:										
On vessels	3						357	2	7	40
On boats and shore:										
Regular	174	2	40	5		27	75	66	175	20
Casual	17	29	59		279	20	12	37	31	
Total	194	31	99	5	279	47	444	105	213	60
Vessels:										
Steam							9			
Net tonnage							1,773			
Motor	1						56	1	5	8
Net tonnage	10						786	10	33	117
Total vessels	1						65	1	5	8
Total net tonnage	10						2,559	10	33	117
Boats:										
Motor	43		17			12	55	35	120	10
Other	115	22	75	5	215			54	2	
Apparatus:										
Number	301	24	849	5	279	47	130	3,877	18,340	18
Square yards		11,258								
Yards at mouth						94	2,791			

Fisheries of New York, 1933—Continued

OPERATING UNITS: By gear—Continued

Item	Spears	Dredges					Tongs	Rakes	Forks	Total, exclusive of duplication
		Clam	Crab	Mussel	Oyster	Scallop				
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:										
On vessels		10	5	3	165	134	50			825
On boats and shore:										
Regular	43	12				41	584	302	133	1,509
Casual	34	2				161	209	280	138	1,482
Total	77	24	5	3	165	336	843	582	271	3,816
Vessels:										
Steam										9
Net tonnage										1,773
Motor		5	1	1	39	25	23			160
Net tonnage		43	23	13	791	382	148			2,422
Total vessels		5	1	1	39	25	23			169
Total net tonnage		43	23	13	791	382	148			4,195
Boats:										
Motor		9				8	272	154		636
Other	71					125	256	364	16	1,188
Accessory boats										39
Apparatus:										
Number	77	14	6	2	78	250	837	568	271	
Yards at mouth		12	14	2	115	365				

CATCH: By gear

Species	Purse seines, other than menhaden		Haul seines		Gill nets							
					Anchor		Drift		Runaround		Stake	
	Lb.	*Value*	*Lb.*	*Value*	*Lb.*	*Value*	*Lb.*	*Value*	*Lb.*	*Value*	*Lb.*	*Value*
Alewives			37,119	$540			12,850	$302			767	$31
Bluefish	27,700	$1,422	1,100	85	55,500	$2,720	26,000	1,300	102,200	$2,658	2,500	250
Carp			64,283	4,701	1,089	104	1,001	103			625	44
Catfish and bullheads			2,695	401			1,280	159				
Eels, common			5,500	725			287	49				
King whiting or "kingfish"			12,500	1,000								
Mackerel							36,400	1,092	127,000	5,820		
Mummichog			18,000	1,800								
Scup or porgy			600	12								
Shad			4,040	448			297,753	23,844			34,143	3,669
Silversides			18,500	1,838								
Squeteagues or "sea trout", gray	5,000	250	32,000	1,600	52,900	2,390			31,700	1,415		
Striped bass			4,214	495			2,283	298			6,591	1,004
Sturgeon							800	200			60	9
Suckers			5,350	451			187	28				
Sunfish			200	20			35	5				
White perch			2,850	240			989	83			4,124	297
Yellow perch			350	27							500	28
Shrimp			17,500	3,500								
Total	32,700	1,672	226,801	17,883	109,489	5,214	379,865	27,463	260,900	9,893	49,310	5,332

Fisheries of New York, 1933—Continued

CATCH: BY GEAR—Continued

Species	Lines								Pound nets	
	Hand		Trawl		Troll		Trot with hooks			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives									1,000	$10
Bluefish	734,850	$37,969			15,000	$1,200			166,579	8,474
Bonito									159,007	9,541
Butterfish									1,479,660	60,660
Carp							508	$61		
Catfish and bullheads							400	63		
Cod	64,802	1,840	396,500	$12,335					42,433	854
Croaker									3,842	174
Eels:										
Common							2,371	308	85,065	9,728
Conger			2,000	200						
Flounders	29,250	877							194,157	10,409
Frigate mackerel									81,886	1,234
Haddock	1,000	20	12,000	340						
Herring, sea									74,987	610
Hickory shad									1,300	25
King whiting or "kingfish"									58,112	2,967
Mackerel									180,167	5,435
Menhaden									201,176	938
Mullet									2,500	96
Pollock	125,000	2,500							9,341	139
Scup or porgy	24,600	492							1,020,187	16,482
Sea bass	102,000	5,880							56,891	3,512
Sea robin									18,758	276
Shad									15,758	788
Sharks									2,500	35
Spot									21,029	423
Squeteagues or "sea trout", gray	10,000	470	23,500	1,045					654,793	30,377
Striped bass									4,579	726
Sturgeon									160	26
Swellfish									2,000	200
Swordfish									180	20
Tautog	25,000	750							34,598	803
Tilefish			1,350,000	67,500						
Tuna or "horse mackerel"									6,736	270
Whitebait									3,000	450
White perch									450	65
Whiting									105,211	1,019
Crabs, hard									21,050	362
Lobsters									800	200
Squid									442,492	6,619
Total	1,116,502	50,798	1,784,000	81,420	15,000	1,200	3,279	432	5,152,384	173,947

Species	Stop nets		Fyke nets		Dip nets		Scap nets		Drag nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	300	$3	81,655	$1,000			84,566	$3,137		
Carp	92,258	7,717	7,654	675			52,079	4,169		
Catfish and bullheads	545	95	12,246	1,569			1,802	270		
Eels, common	820	70	1,896	231			76	6		
Flounders			317,000	4,310						
Pike or pickerel	30	3	390	50						
Shad	40	6					52	6		
Smelt							245	47		
Striped bass	855	122	378	70			43	8		
Sturgeon	400	32	16	1			50	10		
Suckers	926	84	12,889	1,034			9,272	768		
Sunfish	75	4	1,065	73			315	30		
Tautog			1,500	30						
Tomcod			7,560	333			130	5		
White perch	50	5	5,830	328			889	101		
Yellow perch			862	96			145	17		
Crabs:										
Hard			20,000	200						
Soft					825	$225				
Shrimp									42,400	$8,480
Total	96,299	8,141	470,941	10,000	825	225	149,664	8,574	42,400	8,480

Fisheries of New York, 1933—Continued

CATCH: BY GEAR—Continued

Species	Otter trawls		Pots				Harpoons		Spears	
			Eel		Lobster					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bluefish	292	$19								
Butterfish	18,552	679								
Catfish and bullheads			40	$4						
Cod	3,756,934	97,554								
Croaker	76,305	1,357								
Cusk	3,500	99								
Drum, black	447	9								
Eels:										
Common			173,205	14,214					21,250	$2,115
Conger	3,260	57								
Flounders	4,650,721	176,436								
Haddock	8,493,679	247,922								
Hake	139,954	2,811								
Halibut	52,508	7,280								
King whiting or "kingfish"	2,611	90								
Mackerel	150	6								
Mummichog			7,050	705						
Pollock	635,890	8,912								
Scup or porgy	432,766	9,663								
Sea bass	265,897	10,231			80,900	$4,045				
Skates	725	7								
Spot	1,736	40								
Squeteagues or "sea trout," gray	13,741	600								
Striped bass	11	1								
Sturgeon	365	33								
Swordfish							100,786	$12,421		
Tautog	60	1								
Whiting	900	9								
Wolffish	25,625	576								
Lobsters	4,621	607			341,075	66,449				
Shrimp	12	1								
Conchs					18,000	500				
Scallops, sea	297	47								
Squid	2,446	77								
Total	18,584,005	565,124	180,295	14,923	439,975	70,994	100,786	12,421	21,250	2,115

Species	Dredges									
	Clam		Crab		Mussel		Oyster		Scallop	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Crabs, hard			108,333	$4,875						
Clams, surf or skimmers	359,000	$16,180								
Conchs									17,000	$1,595
Mussels, sea					45,000	$3,000	2,400	$150		
Oysters:										
Market, private, spring							2,717,550	375,901		
Market, private, fall							3,179,550	433,591		
Scallops:										
Bay									48,000	17,100
Sea									1,823,195	193,398
Total	359,000	16,180	108,333	4,875	45,000	3,000	5,899,500	809,642	1,888,195	212,093

Species	Tongs		Rakes		Forks	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Clams:						
Hard, public	1,345,710	$191,976	577,900	$79,319		
Hard, private	21,040	4,601				
Soft, public	6,400	725	64,550	4,885	151,200	$13,150
Surf or skimmers	20,500	2,200				
Oysters:						
Market, public, spring	19,250	2,662				
Market, public, fall	71,484	8,462	10,500	1,050		
Market, private, spring	43,975	5,237				
Market, private, fall	49,475	5,787				
Bloodworms					9,250	8,390
Sandworms					3,500	2,080
Total	1,577,834	221,650	652,950	85,254	163,950	23,620

Fisheries of New York, 1933—Continued

OPERATING UNITS: BY COUNTIES

Item	Albany	Bronx	Columbia	Dutchess	Greene	Kings	Nassau	New York
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels						188	44	300
On boats and shore:								
Regular		3	2	14	2	185	259	
Casual	8		72	154	56	130	97	
Total	8	3	74	168	58	503	400	300
Vessels:								
Steam								9
Net tonnage								1,773
Motor						39	10	16
Net tonnage						594	152	424
Total vessels						39	10	25
Total net tonnage						594	152	2,197
Boats:								
Motor						80	48	
Other	8	3	54	97	32	10	202	
Accessory boats						15	2	22
Apparatus:								
Purse seines:								
Other than menhaden						1	1	
Length, yards						400	400	
Haul seines			6	4	5	5	15	
Length, yards			650	560	585	60	860	
Gill nets:								
Drift			3	31	1			140
Square yards			8,666	122,461	800			25,200
Runaround						2	31	
Square yards						16,000	93,200	
Lines:								
Hand						118		4
Hooks						231		8
Trawl						70	93	436
Hooks						70,800	39,200	30,600
Troll						20		
Hooks						20		
Trot with hooks				1				
Hooks				150				
Pound nets							1	
Stop nets			2	1	12			
Square yards			140	100	7,775			
Fyke nets	2		20	16	5			
Dip nets							5	
Scap nets	8		44	93	31			
Drag nets							5	
Yards at mouth							10	
Otter trawls						30	4	22
Yards at mouth						693	68	393
Pots:								
Eel				4		250	296	
Lobster						6,820	2,035	
Harpoons								2
Spears						12	39	
Dredges:								
Clam						12	1	
Yards at mouth						10	1	
Mussel							2	
Yards at mouth							2	
Oyster							10	12
Yards at mouth							13	18
Scallop						46	6	8
Yards at mouth						122	17	24
Tongs							162	
Rakes		3					84	
Forks						100	95	

Fisheries of New York, 1933—Continued

OPERATING UNITS: By counties—Continued

Item	Orange	Putnam	Queens	Rensselaer	Richmond	Rockland	Suffolk	Ulster	Westchester
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels			2		7		284		
On boats and shore:									
Regular	7				8	5	991	24	9
Casual	46	4		16	2	46	622	165	64
Total	53	4	2	16	17	51	1,897	189	73
Vessels:									
Motor			1		2		92		
Net tonnage			14		30		1,208		
Boats:									
Motor					8		499		1
Other	32	4		12		31	536	128	39
Apparatus:									
Haul seines	4	1		3			20	5	3
Length, yards	533	125		375			1,195	700	283
Gill nets:									
Anchor							44	2	
Square yards							40,497	335	
Drift	9			1		13		44	12
Square yards	37,928			3,200		42,766		142,731	39,617
Run-around							10		
Square yards							15,622		
Stake		1				10	23	1	14
Square yards		165				3,205	6,286	135	13,370
Lines:									
Hand							103		
Hooks							202		
Trawl							94		
Hooks							47,000		
Trot with hooks	1			1		3		6	2
Hooks	120			100		325		600	200
Pound nets							300		
Stop nets	1							7	1
Square yards	400							2,708	135
Fyke nets	6	1		3			765	23	8
Scap nets	15	2		6				78	2
Drag nets							42		
Yards at mouth							84		
Otter trawls			1		1		72		
Yards at mouth			30		17		1,590		
Pots:									
Eel						57	3,212	22	36
Lobster					1,150		8,255		80
Harpoons							16		
Spears							26		
Dredges:									
Clam					1				
Yards at mouth					1				
Crab					6				
Yards at mouth					14				
Oyster							56		
Yards at mouth							84		
Scallop					2		188		
Yards at mouth					5		197		
Tongs							674		1
Rakes							480		1
Forks							76		

CATCH: By counties

Species	Albany		Bronx		Columbia		Dutchess		Greene	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	1,250	$43			47,733	$773	36,363	$1,461	12,317	$400
Carp	3,850	274			11,930	821	11,510	1,018	91,215	7,454
Catfish and bullheads	90	10			4,398	574	3,092	307	1,892	295
Eels, common					480	45	870	111	726	59
Pike or pickerel									38	5
Shad					6,086	540	101,857	7,280	1,500	133
Striped bass	16	2					40	8	700	85
Sturgeon							850	210	16	1
Suckers	2,850	210			4,351	338	3,103	241	2,273	186
Sunfish					60	6	600	33	200	20
Tomcod							130	5		
White perch					2,036	68	965	75	2,406	211
Yellow perch					50	10	117	12		
Clams, hard, public			3,600	$675						
Total	8,056	539	3,600	675	77,124	3,275	159,497	10,761	113,283	8,849

Fisheries of New York, 1933—Continued

CATCH: BY COUNTIES—Continued

Species	Kings		Nassau		New York		Orange	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives							6,105	$175
Bluefish	726,850	$38,176	96,774	$2,317	63,215	$3,161		
Bonito			79	5				
Butterfish	3,217	160	1,535	61				
Carp							8,516	781
Catfish and bullheads							1,768	339
Cod	332,900	6,837	118,161	4,843	3,648,444	95,436		
Croaker	36	1			7,070	174		
Cusk	200	4			3,300	95		
Eels:								
Common	15,000	1,500	21,000	2,375			1,132	136
Conger	178	4			2,510	210		
Flounders	1,032,766	39,740	100,059	3,005	455,422	16,057		
Frigate mackerel			11	1				
Haddock	288,300	6,275			8,179,879	240,827		
Hake	2,753	35			126,608	2,628		
Halibut	200	8			52,102	7,243		
King whiting or "kingfish"	25	1	26	1	22	1		
Mackerel	67,000	4,020	60,212	1,806	36,400	1,092		
Mummichog	12,450	1,245	6,600	660				
Pollock	700	22			635,140	8,889		
Scup or porgy	12,570	225	4,828	88	65,531	1,375		
Sea bass	54,236	2,264	85,950	4,298	62,984	1,802		
Shad							17,262	1,621
Silversides	300	18	10,200	1,020				
Skates	725	7						
Spot			20	1	920	17		
Squeteagues or "sea trout", gray	6,000	270	26,032	1,093	294	20		
Striped bass			3,000	300			858	139
Sturgeon	8	1						
Suckers							4,175	438
Sunfish							260	26
Swordfish					35,796	4,856		
Tautog	25,000	750						
Tilefish	322,000	16,100			1,028,000	51,400		
Tuna or "horse mackerel"			19	1				
Whiting	900	9	70	1				
Wolffish					25,625	576		
Yellow perch							720	74
Crabs, soft			825	225				
Lobsters	174,150	31,347	19,400	4,850				
Shrimp			16,400	3,280				
Clams:								
Hard, public			257,750	50,185				
Soft, public			116,000	11,250				
Surf or skimmers	335,000	14,680	23,500	1,950				
Conchs	15,200	1,520						
Mussels, sea			47,400	3,150				
Oysters:								
Market, private, spring			200,600	27,800	524,495	74,925		
Market, private, fall			296,400	42,150	524,495	74,925		
Scallops, sea	968,420	107,600	171,990	21,341	426,105	47,345		
Squid			860	5	95	2		
Bloodworms	9,000	8,140	250	250				
Total	4,406,084	280,959	1,685,951	188,312	15,904,452	633,056	40,796	3,729

Species	Putnam		Queens		Rensselaer		Richmond	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives					2,269	$85		
Carp	3,855	$286			9,226	870		
Catfish and bullheads	240	12			2,794	422		
Croaker			140	$2				
Eels, common					350	87		
Flounders			5,162	300			21,000	$1,050
King whiting or "kingfish"			20	1				
Pike or pickerel					17	3		
Shad					1,215	110		
Suckers	385	26			200	14		
Tomcod	360	58						
White perch	80	8						
Yellow perch					80	5		
Crabs, hard							108,333	4,875
Lobsters							14,500	2,610
Clams, surf or skimmers							12,000	500
Conchs							1,800	75
Total	4,920	390	5,322	303	16,151	1,596	157,633	9,110

Fisheries of New York, 1933—Continued

CATCH: BY COUNTIES—Continued

Species	Rockland		Suffolk		Ulster		Westchester	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	1,681	$39	81,000	$970	28,753	$1,051	786	$26
Bluefish			244,882	12,443				
Bonito			158,928	9,536				
Butterfish			1,493,460	61,118				
Carp	250	25			74,885	4,636	4,260	409
Catfish and bullheads	140	14			3,504	472	1,090	116
Cod			161,164	5,467				
Croaker			72,901	1,354				
Drum, black			447	9				
Eels:								
Common	6,260	450	240,035	22,302	2,417	179	2,200	202
Conger			2,572	43				
Flounders			3,576,719	131,880				
Frigate mackerel			81,875	1,233				
Haddock			38,500	1,180				
Hake			10,593	148				
Halibut			206	29				
Herring, sea			74,987	610				
Hickory shad			1,300	25				
King whiting or "kingfish"			73,130	4,053				
Mackerel			180,105	5,435				
Menhaden			201,176	938				
Mullet			2,500	96				
Mummichog			6,000	600				
Pike or pickerel					215	24	150	21
Pollock			134,391	2,640				
Porgy			1,395,224	24,961				
Sea bass			302,518	15,304				
Sea robin			18,758	276				
Shad	17,562	1,812	17,488	1,397	135,578	11,177	53,238	4,691
Sharks			2,500	35				
Silversides			8,000	800				
Smelt					245	47		
Spot			21,825	445				
Squeteagues or "sea trout", gray			791,308	36,764				
Striped bass	7,878	1,135	4,590	727	27	6	1,845	322
Sturgeon			517	58			460	41
Suckers					7,697	562	3,590	350
Sunfish					570	47		
Swellfish			2,000	200				
Swordfish			65,170	7,585				
Tautog			36,158	834				
Tomcod			5,000	200	200	25	2,000	50
Tuna or "horse mackerel"			6,717	269				
White bait			3,000	450				
White perch	2,444	176	450	65	2,651	235	4,150	181
Whiting			105,141	1,018				
Yellow perch	500	28			390	39		
Crabs, hard			41,050	562				
Lobsters			136,946	28,149			1,500	300
Shrimp			43,512	8,701				
Clams:								
Hard, public			1,659,460	219,785			2,800	650
Hard, private			21,040	4,601				
Soft, public			106,150	7,510				
Surf or skimmer			9,000	1,250				
Conchs			18,000	500				
Oysters:								
Market, public, spring			19,250	2,662				
Market, public, fall			81,984	9,512				
Market, private, spring			2,036,430	278,413				
Market, private, fall			2,408,130	322,303				
Scallops:								
Bay			48,000	17,100				
Sea			256,977	17,159				
Squid			443,983	6,689				
Sandworms			3,500	2,080				
Total	36,715	3,679	16,956,647	1,280,473	257,132	19,500	78,069	7,359

Fisheries of New York, 1933—Continued

SEED OYSTER FISHERY: BY GEAR

Item	Dredges		Tongs		Rakes		Total, exclusive of duplication	
OPERATING UNITS								
Fishermen:	*Number*		*Number*		*Number*		*Number*	
On vessels	15		9				24	
On boats and shore:								
Regular			185		45		230	
Total	15		194		45		254	
Vessels, motor	3		4				7	
Net tonnage	45		24				69	
Boats:								
Motor			100		20		120	
Other			5		25		30	
Apparatus:								
Number	6		194		45			
Yards at mouth	9							
CATCH								
Oysters:	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*
Seed, public, spring			35, 100	$17, 550	7, 500	$3, 000	42, 600	$20, 550
Seed, public, fall			5, 000	2, 500	7, 500	3, 000	12, 500	5, 500
Seed, private, spring	40, 290	$39, 540					40, 290	39, 540
Seed, private, fall	38, 290	38, 290					38, 290	38, 290
Total	78, 580	77, 830	40, 100	20, 050	15, 000	6, 000	133, 680	103, 880

NOTE.—The seed-oyster fishery of New York is confined to Suffolk County. Of the total number of persons fishing for seed oysters, 242 are duplicated among those fishing for market oysters or other species. Similarly the following craft and gear are duplicated; 1 motor vessel, 188 tongs, and 15 rakes.

NEW JERSEY

Fisheries of New Jersey, 1933

OPERATING UNITS: BY GEAR

Item	Purse seines		Haul seines	Gill nets				Lines	
	Menhaden	Other		Anchor	Drift	Runaround	Stake	Hand	Trawl
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	150	73			8			80	38
On boats and shore:									
Regular			65	2	68	57	37	156	228
Casual			188	5	202	53	62	134	56
Total	150	73	253	7	278	110	99	370	322
Vessels:									
Motor	8	7			1			14	10
Net tonnage	285	132			11			175	107
Sail					1			1	1
Net tonnage					7			7	7
Total vessels	8	7			2			15	11
Total net tonnage	285	132			18			182	114
Boats:									
Motor			6	3	93	51	27	150	129
Other			95		54		22	1	
Accessory boats	22	12						30	10
Apparatus:									
Number	8	7	105	10	605	69	251	463	712
Length, yards	2, 806	2, 510	9, 040						
Square yards				5, 830	448, 333	210, 695	46, 882		
Hooks, baits or snoods								720	420, 400

Fisheries of New Jersey, 1933—Continued

OPERATING UNITS: By gear—Continued

Item	Lines		Pound nets	Weirs	Stop nets	Fyke nets	Dip nets	Cast nets	Drag nets
	Troll	Trot with baits or snoods							
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	9		200						
On boats and shore:									
Regular	50	6	117		20	35	9		2
Casual	60	8	13	15	72	62	25	3	11
Total	119	14	330	15	92	97	34	3	13
Vessels:									
Motor	2		30						
Net tonnage	20		183						
Boats:									
Motor	101	7	20	4	19	31	9		8
Other			11	4	34	37	21		
Accessory boats	4		10						
Apparatus:									
Number	404	9	153	88	65	1,369	34	3	14
Square yards					50,615				
Yards at mouth									28
Hooks, baits or snoods	404	9,900							

Item	Otter trawls	Wire baskets	Pots			Harpoons	Spears	Dredges	
			Crab	Eel	Lobster			Clam	Crab
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	123					5		51	65
On boats and shore:									
Regular	61		2	35	177		48	8	2
Casual		1		51	55		44		
Total	184	1	2	86	232	5	92	59	67
Vessels:									
Motor	37					1		15	15
Net tonnage	705					26		229	312
Sail								2	2
Net tonnage								17	17
Total vessels	37					1		17	17
Total net tonnage	705					26		246	329
Boats:									
Motor	30		1	39	126		5	4	1
Other				27			69		
Accessory boats						1			
Apparatus:									
Number	67	12	10	2,571	28,071	1	92	43	69
Yards at mouth	1,514							48	90

Item	Dredges		Tongs	Rakes	Forks	Hoes	Gaffs	By hand	Total, exclusive of duplication
	Oyster	Scallop							
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	635	27							1,267
On boats and shore:									
Regular	19		275	178	47	56	2	19	954
Casual	15		508	331	4	121		121	1,622
Total	669	27	783	509	51	177	2	140	3,843
Vessels:									
Motor	109	5							208
Net tonnage	2,025	83							3,470
Sail									3
Net tonnage									24
Total vessels	109	5							211
Total net tonnage	2,025	83							3,494
Boats:									
Motor	22		399	264		28			1,029
Other			336	222		59	2		740
Accessory boats									88
Apparatus:									
Number	259	10	783	509	51	176	2		
Yards at mouth	309	34							

Fisheries of New Jersey, 1933—Continued

CATCH: BY GEAR

Species	Purse seines				Haul seines	
	Menhaden		Other			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives			76,085	$3,053	4,450	$6
Bluefish			55	2	1,100	6
Butterfish					35,871	4,00
Carp					19,300	91
Catfish and bullheads			3,707	69	15,100	40
Croaker					53,001	3,33
Eels, common			7,828	152	41,050	2,56
Flounders					750	
Herring, round			60	1		
Kingfish or "king mackerel"			53	2	1,300	8
King whiting or "kingfish"			1,350	34		
Mackerel	40,557,900	$73,561	2,890,800	7,207		
Menhaden					82,480	6,22
Mullet					10,100	44
Mummichog						
Scup or porgy			407,241	2,576		
Sea bass			437	17		
Shad					66,709	7,80
Silversides					4,330	62
Spanish mackerel			5	1		
Spot					2,000	8
Squeteague or "sea trout", gray			367,309	5,448	49,612	2,76
Striped bass					1,200	28
Suckers					101,600	8,39
Thimble-eyed mackerel			300	6		
Tuna or "horse mackerel"			44	2		
White perch					5,500	48
Crabs:						
Hard					2,355	14
Soft					16,881	3,10
Shrimp					400	8
Total	40,557,900	73,561	3,755,474	18,570	515,089	41,88

Species	Gill nets							
	Anchor		Drift		Runaround		Stake	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
Alewives							5,800	$14
Bluefish	1,000	$50	15,719	$1,020	159,842	$6,877	6,425	36
Bonito					1,114	78		
Butterfish			825	34	1,543	62		
Croaker			113,806	2,068	33,952	939	1,500	8
Mackerel			175,968	4,890	13,131	421		
Scup or porgy					2,292	46		
Shad	638	85	75,772	10,989	19	2	251,211	20,70
Spot			55,000	1,430	11,520	330	7,500	37
Squeteague or "sea trout", gray	750	38	91,865	2,149	74,143	3,614	6,314	28
Striped bass			1,780	300			3,795	69
Sturgeon			498	98				
White perch							10,300	1,20
Whiting					45	1		
Crabs, soft			801	100				
Total	2,388	173	532,034	23,078	297,601	12,370	292,845	23,84

Fisheries of New Jersey, 1933—Continued

CATCH: BY GEAR—Continued

Species	Lines							
	Hand		Trawl		Troll		Trot with baits or snoods	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bluefish	1,062,448	$31,076			446,992	$20,176		
Bonito	8,180	413			9,832	734		
Cero	2,500	75						
Cod	28,355	834	2,543,028	$80,294				
Croaker	20,500	930						
Dolphin					111	9		
Eels, common	2,200	141						
Flounders	12,769	464	6,533	357				
Grayfish			1,500	30				
Hake			409	14				
King whiting or "kingfish"	31	3						
Scup or porgy	31,458	393						
Sea bass	342,430	16,017						
Sharks			539	8				
Skates			4,838	25				
Spanish mackerel	5,600	168						
Squeteague or "sea trout", gray	60,816	2,659						
Striped bass	400	40						
Tautog	5,635	412						
Tuna or "horse mackerel"	1,063	81			3,324	157		
Crabs:								
Hard							102,102	$2,913
Soft							1,200	225
Total	1,584,385	53,706	2,556,847	80,728	460,259	21,076	103,302	3,138

Species	Pound nets		Weirs		Stop nets		Fyke nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives							3,740	$35
Bluefish	335,143	$12,752						
Bonito	69,281	2,878						
Butterfish	2,811,867	114,175						
Carp					167,200	$11,996		
Catfish and bullheads					2,000	120	34,080	2,286
Cod	642,251	18,207						
Crevalle	7,254	141						
Croaker	786,492	21,271						
Drum, red or redfish	6,498	101						
Eels:								
Common	20,702	1,914					30,562	2,706
Conger	2,029	112						
Flounders	386,831	20,237					68,283	1,771
Frigate mackerel	19,754	243						
Goosefish	10,000	38						
Grayfish	5,239	105						
Herring, sea	590,465	5,171						
King whiting or "kingfish"	72,140	10,437						
Mackerel	119,861	3,942						
Menhaden	2,325,061	42,159						
Mummichog							500	100
Pollock	6,280	94						
Pompano	317	77						
Scup or porgy	3,708,969	39,041					55	1
Sea bass	198,523	6,622					4,237	150
Sea robin	10,805	109						
Shad	63,109	5,599						
Sharks	9,071	195						
Skates	74,976	632						
Spanish mackerel	814	118						
Spot	387,662	4,565						
Squeteagues or "sea trout", gray	6,140,500	162,415						
Squirrel hake	52,765	402						
Striped bass	420	31					1,500	423
Sturgeon	372	70						
Suckers					975	67		
Tautog	56,969	9,533						
Thimble-eyed mackerel	25,175	368						
Tuna or "horse mackerel"	32,061	1,416						
White perch	500	25					13,120	954
Whiting	2,040,499	20,133						
Crabs:								
Hard	9,600	64						
King	1,269,600	3,326	893,336	$2,485			7,500	80
Lobsters	2,610	470						
Squid	337,000	8,480						
Turtles, snapper							1,750	175
Total	22,639,465	517,668	893,336	2,485	110,175	12,183	165,327	8,681

Fisheries of New Jersey, 1933—Continued

CATCH: BY GEAR—Continued

Species	Dip nets		Cast nets		Drag nets		Otter trawls		Wire baskets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bluefish							10,550	$715		
Butterfish							97,924	5,046		
Carp			400	$48						
Cod							16,252	353		
Croaker							926,016	19,179		
Drum, red or redfish							2,272	25		
Eels, conger							9,134	320		
Flounders							3,528,407	145,053		
Hake							21,762	346		
Kingfish or "king mackerel"							80	4		
King whiting or "kingfish"							10,515	404		
Mackerel							7,737	405		
Menhaden							356	2		
Mullet							267	8		
Pigfish							203	5		
Scup or porgy							731,349	23,236		
Sea bass							257,214	9,889		
Sheepshead							9	1		
Skates							3,162	55		
Spot							9,883	178		
Squeteague or "sea trout":										
Gray							136,072	6,222		
Spotted							30	2		
Striped bass							27	4		
Sturgeon							25,843	1,962		
Tautog							1,617	34		
Tilefish							25	1		
Crabs:										
Hard	17,658	$1,778					60	1		
Soft	31,539	7,649							1,341	$168
Lobsters							1,749	215		
Shrimp					9,500	$2,375	15,841	873		
Periwinkles and cockles							100	2		
Scallops:										
Bay							594	30		
Sea							1,589	102		
Squid							10,312	280		
Total	49,197	9,427	400	48	9,500	2,375	5,826,951	214,952	1,341	168

Species	Pots						Harpoons		Spears	
	Crab		Eel		Lobster					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Eels, common			124,683	$9,899					105,318	$10,56
Flounders					96	$5				
Mummichog			15,325	1,394						
Sea bass					1,166,302	30,906				
Silversides			500	50						
Swordfish							1,600	$128		
Tautog					6,702	69				
Crabs:										
Hard	12,000	$750			2,280	438				
Soft	4,800	900								
Lobsters					359,861	66,944				
Total	16,800	1,650	140,508	11,343	1,535,241	98,362	1,600	128	105,318	10,65

Fisheries of New Jersey, 1933—Continued

CATCH: By GEAR—Continued

Species	Dredges								Tongs	
	Clam		Crab		Oyster		Scallop			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Crabs, hard			561,753	$12,220						
Clams:										
Hard, public	23,443	$3,333			2,625	$375			760,636	$115,843
Hard, private	63,143	7,027			1,336	550			5,107	1,021
Surf or skimmers	140,063	5,432								
Conchs	54	2								
Oysters:										
Market, public, spring									10,330	992
Market, public, fall									25,589	1,601
Market, private, spring					3,622,470	269,885			56,919	7,676
Market, private, fall					3,668,151	275,843			137,834	18,419
Scallops, sea							372,000	$22,300		
Total	226,703	15,844	561,753	12,220	7,294,582	546,653	372,000	22,300	996,415	145,552

Species	Rakes		Forks		Hoes		Gaffs		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Crabs:										
Hard	1,602	$48								
King									13,336	$40
Soft	801	96								
Clams:										
Hard, public	531,283	81,480							87,217	14,548
Hard, private	875	123								
Soft, public					913,560	$45,752				
Surf or skimmers	6,250	250								
Mussels, sea									5,200	200
Oysters:										
Market, public, spring	198	96							438	50
Market, public, fall	580	141							437	50
Market, private, spring	38,725	5,272							425	50
Market, private, fall	47,963	6,756							1,616	270
Terrapin, diamond-back									502	145
Turtles, snapper							750	$75		
Bloodworms			1,740	$1,505						
Sandworms			5,403	4,645						
Total	628,277	94,262	7,143	6,150	913,560	45,752	750	75	109,171	15,353

OPERATING UNITS: By COUNTIES

Item	Atlantic	Bergen	Burlington	Camden	Cape May	Cumberland	Gloucester
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	64	3	6		288	593	
On boats and shore:							
Regular	217	8	34		154	39	2
Casual	211	47	102	17	342	143	19
Total	492	58	142	17	784	775	21
Vessels:							
Motor	15	1	2		51	97	
Net tonnage	225	15	22		839	1,877	
Boats:							
Motor	184	13	62	1	192	46	5
Other	178	13	35	8	149	95	7
Accessory boats	7				56		

Fisheries of New Jersey, 1933—Continued

OPERATING UNITS: BY COUNTIES—Continued

Item	Atlantic	Bergen	Burlington	Camden	Cape May	Cumberland	Gloucester
Apparatus:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Purse seines:					1		
Menhaden					456		
Length, yards					6		
Other	1				2,150		
Length, yards	360						
Haul seines	25		20	4	10	8	
Length, yards	2,045		1,811	400	495	800	240
Gill nets:							
Drift	71	1	18	7	124	78	
Square yards	22,680	1,998	20,450	840	41,368	61,997	
Runaround	1				4	4	
Square yards	4,800				7,200	1,200	
Stake		13	4		9	69	
Square yards		15,390	106		1,300	8,120	
Lines:							
Hand	39				209	16	
Hooks	65				374	22	
Trawl	137				303	9	
Hooks	82,100				198,850	5,400	
Troll	4				268		
Hooks	4				268		
Trot with baits or snoods						8	
Baits or snoods						9,700	
Pound nets	2				63		
Weirs					62	26	
Stop nets			8	5		8	1
Square yards			2,920	495		7,500	18,6
Fyke nets	21		278	15	121	174	4
Dip nets	4				6	1	
Cast nets							
Otter trawls	23				40		
Yards at mouth	540				872		
Pots:							
Eel	6	105			207	32	
Lobster					470		
Spears	2				3		
Dredges:							
Clam	3				6	14	
Yards at mouth	3				6	18	
Crab		12				20	
Yards at mouth		12				30	
Oyster	10		16		2	192	
Yards at mouth	11		16		3	236	
Scallop	4						
Yards at mouth	14						
Tongs	304		53		165	58	
Rakes	201		25		136		
Hoes	2						
Gaffs						2	

Item	Hudson	Hunterdon	Mercer	Middlesex	Monmouth	Ocean	Salem
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Numbe*
On vessels	2			2	162	147	
On boats and shore:							
Regular				6	298	193	
Casual		24	26	11	323	265	9
Total	2	24	26	19	783	605	9
Vessels:							
Motor	1			1	14	26	
Net tonnage	9			8	276	199	
Sail					3		
Net tonnage					24		
Total vessels	1			1	17	26	
Total net tonnage	9			8	300	199	
Boats:							
Motor				7	200	281	
Other		5	7	3	157	68	

Fisheries of New Jersey, 1933—Continued

OPERATING UNITS: By counties—Continued

Item	Hudson	Hunterdon	Mercer	Middlesex	Monmouth	Ocean	Salem
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
ccessory boats					25		
pparatus:							
Purse seines:							
Menhaden					7		
Length, yards					2,350		
Haul seines		5	4		13	5	8
Length, yards		1,005	740		253	281	970
Gill nets:							
Anchor				3	7		
Square yards				2,500	3,330		
Drift					275		31
Square yards					106,320		192,680
Run-around				6	36	18	
Square yards				15,895	98,800	82,800	
Stake					4	152	
Square yards					5,360	16,606	
Lines:							
Hand					151	46	2
Hooks					202	53	4
Trawl					97	166	
Hooks					50,100	83,950	
Troll					96	36	
Hooks					96	36	
Trot with baits or snoods							1
Baits or snoods							200
Pound nets					47	41	
Stop nets							33
Square yards							21,100
Fyke nets			15		92	517	96
Dip nets					19	4	
Cast nets							2
Drag nets						14	
Yards at mouth						28	
Otter trawls	1				3		
Yards at mouth	27				75		
Wire baskets						12	
Pots:							
Crab							10
Eel				195	1,158	868	
Lobster				345	16,887	10,369	
Harpoons					1		
Spears					74	13	
Dredges:							
Clam				4	16		
Yards at mouth				5	16		
Crab					37		
Yards at mouth					48		
Oyster						39	
Yards at mouth						43	
Scallop					6		
Yards at mouth					20		
Tongs					4	199	
Rakes					36	111	
Forks				3	48		
Hoes					174		

CATCH: By counties

Species	Atlantic		Bergen		Burlington		Camden		Cape May	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
lewives					150	$4				
luefish	175,050	$7,072							599,782	$25,844
onito	550	22							15,626	849
utterfish	9,279	399							764,404	24,888
arp					15,471	1,661	8,500	$850		
atfish and bullheads	4,050	122			14,470	1,300	1,000	80		
ero									2,500	75
od	553,995	21,149							1,256,165	39,697
roaker	67,548	1,198			1,050	21			1,121,482	21,814
olphin									111	9
rum, red or redfish									5,272	55

Fisheries of New Jersey, 1933—Continued

CATCH: BY COUNTIES—Continued

Species	Atlantic		Bergen		Burlington		Camden		Cape May	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Eels:										
Common	68,100	$4,236	6,500	$303	8,112	$610	1,000	$150	23,108	$2,5
Conger	3,771	72							5,363	2
Flounders	1,182,122	47,772							2,323,790	98,5
Frigate mackerel									405	
Hake	6,066	93							15,705	2
Herring:										
Round	750	8								
Sea	7,500	75							9,580	
Kingfish or "king mackerel"	60	1							80	
King whiting or "kingfish"	2,980	136							31,431	1,2
Mackerel	6,453	224							12,290	6
Menhaden									8,603,761	21,5
Mullet	27,600	1,656							51,267	4,1
Mummichog	8,000	200					500	100	2,225	
Pigfish									203	
Pollock									380	
Pompano	200	24								
Scup or porgy	76,367	1,299							2,095,045	30,1
Sea bass	155,448	4,939							467,152	22,0
Shad	1,960	124	171,024	12,573	11,249	2,020	2,330	405	10,818	9
Sharks									2,965	
Sheepshead									9	
Skates									12,904	1
Spanish mackerel	5	1							5,675	1
Spot	2,434	89							31,767	8
Squeteagues or "sea trout":										
Gray	295,903	5,673			2,562	143			2,353,679	54,4
Spotted									30	
Squirrel hake									3,000	
Striped bass	2,037	482			650	195			610	
Sturgeon	131	9							26,074	2,0
Suckers	850	26			59,100	4,513	150	11		
Tautog	224	3							2,130	
Thimble-eyed mackerel									9,004	
Tilefish									25	
Tuna or "horse mackerel"	192	4							3,376	1
White perch	6,850	568			2,100	210				
Whiting	3,000	15							10,964	
Crabs:										
Hard	6,525	337	23,001	690					3,471	1
King									1,920,272	5,2
Soft	942	113							933	1
Lobsters	554	79							1,195	1
Shrimp	841	123							15,000	7
Clams:										
Hard, public	446,134	71,434			94,106	13,229			285,557	53,3
Hard, private	875	185			1,094	154				
Soft, public	2,000	250								
Surf or skimmer	77,563	2,982							68,750	2,7
Conchs									54	
Mussels, sea									5,200	2
Oysters:										
Market, public, spring									2,796	5
Market, public, fall	425	58							197	
Market, private, spring	113,900	14,992			108,801	13,500			21,468	1,9
Market, private, fall	199,291	26,474			108,801	13,500			18,508	1,6
Periwinkles and cockles									100	
Scallops:										
Bay									594	
Sea	150,170	7,542							1,419	
Squid	564	18							198,648	5,1
Total	3,669,259	222,278	200,525	13,566	427,716	51,060	13,480	1,596	22,424,319	425,9

Fisheries of New Jersey, 1933—Continued

CATCH: BY COUNTIES—Continued

Species	Cumberland		Gloucester		Hudson		Hunterdon		Mercer	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	7,800	$170	2,000	$30					300	$5
Bluefish	5,000	440								
Carp	13,750	1,316	28,950	3,764			350	$35	1,100	132
Catfish and bullheads	14,760	823	7,000	210						
Cod	13,334	600								
Croaker	20,500	760								
Eels, common	11,200	696	700	70					1,750	300
Flounders					50,000	$1,500				
Shad	45,814	6,310	410	43			25,359	2,500	31,833	3,969
Spot	65,000	1,730								
Squeteagues or "sea trout", gray	103,064	2,478								
Striped bass	5,055	816								
Sturgeon	498	98								
Suckers			400	28			8,000	480	34,000	3,400
White perch	10,500	1,186								
Crabs:										
Hard	471,567	7,073								
King	256,000	608								
Soft	876	131								
Clams:										
Hard, public	4,375	930								
Hard, private	63,143	7,027								
Oysters:										
Market, public, spring	7,200	480								
Market, public, fall	23,400	1,235								
Market, private, spring	3,408,582	241,928								
Market, private, fall	3,412,176	242,167								
Terrapin, diamond-back	502	145								
Turtles, snapper	2,500	250								
Total	7,966,596	519,397	39,460	4,145	50,000	1,500	33,709	3,015	68,983	7,806

Species	Middlesex		Monmouth		Ocean		Salem	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives			1,500	$10	2,240	$25		
Bluefish	81,931	$3,647	678,703	26,328	574,838	12,815		
Bonito			24,701	1,325	47,530	1,907		
Butterfish			556,743	23,459	1,581,788	70,573		
Carp							75,350	$8,289
Catfish and bullheads							14,100	786
Cod			572,666	17,035	833,726	21,207		
Crevalle			2,200	39	5,054	102		
Croaker	15,031	489	194,369	10,820	472,093	9,443	9,000	400
Drum, red or redfish			538	11	2,960	60		
Eels:								
Common	4,375	334	156,753	15,196	51,868	3,837	3,000	290
Conger			2,029	112				
Flounders			367,039	18,149	128,846	4,610		
Frigate mackerel			13,911	139	5,438	100		
Goosefish			10,000	38				
Grayfish			6,739	135				
Hake			400	13				
Herring, sea			307,225	3,072	266,160	1,930		
King whiting or "kingfish"			20,867	8,151	28,761	1,440		
Mackerel			254,300	6,993	45,004	1,802		
Menhaden			36,967,308	99,897	203,048	1,487		
Mullet			3,880	420				
Mummichog	3,650	365	11,350	1,170	200	20		
Pollock			3,195	42	2,705	42		
Pompano			117	53				
Scup or porgy			1,308,771	19,836	1,401,181	14,011		
Sea bass			224,086	8,200	1,122,457	28,376		
Sea robin			4,705	47	6,100	62		
Shad	276	52	119,267	11,519	21,470	1,900	15,648	2,835
Sharks			6,645	177				
Silversides			3,930	426	900	250		
Skates			38,900	453	31,172	137		
Spanish mackerel			232	29	507	77		
Spot			219,014	2,777	155,350	1,551		
Squeteagues or "sea trout", gray	27,594	1,538	1,453,449	51,055	2,687,505	70,090	3,625	220

Fisheries of New Jersey, 1933—Continued

CATCH: BY COUNTIES—Continued

Species	Middlesex		Monmouth		Ocean		Salem	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Squirrel hake			35,233	$241	14,532	$145		
Striped bass					450	120	320	$96
Sturgeon			10	2				
Suckers							75	4
Swordfish			1,600	128				
Tautog			40,290	9,283	28,279	716		
Thimble-eyed mackerel			8,908	129	7,563	153		
Tuna or "horse mackerel"			17,991	932	14,933	560		
White perch			20	2	9,950	700		
Whiting			1,284,816	12,769	741,764	7,286		
Crabs:								
Hard			188,646	8,616	1,200	525	15,000	938
King			7,500	80				
Soft			43,263	9,780	5,349	978	6,000	1,125
Lobsters	848	$213	342,123	62,526	19,500	4,675		
Shrimp					9,900	2,455		
Clams:								
Hard, public	9,513	1,440	101,346	12,409	464,173	62,804		
Hard, private			2,700	620	2,649	735		
Soft, public			911,560	45,502				
Oysters:								
Market, public, spring					970	112		
Market, public, fall					2,584	403		
Market, private, spring			750	150	65,038	10,406		
Market, private, fall			750	150	116,038	17,371		
Scallops, sea			222,000	14,800				
Squid			36,145	1,322	111,955	2,241		
Bloodworms	6	8	1,734	1,497				
Sandworms	3	3	5,400	4,642				
Total	143,227	8,089	46,788,317	512,706	11,295,728	360,239	142,118	14,983

SEED OYSTER FISHERY: BY GEAR

Item	Dredges		Tongs		Rakes		By hand		Total, exclusive of duplication	
OPERATING UNITS										
Fishermen:	*Number*		*Number*		*Number*		*Number*		*Number*	
On vessels	1,514								1,514	
On boats and shore:										
Regular			48		20				68	
Casual			92		14		1		107	
Total	1,514		140		34		1		1,689	
essels, sail	139								139	
Net tonnage	2,881								2,881	
Boats:										
VMotor			60		26				86	
Other			73		8				81	
Apparatus:										
Number	278		140		34					
Yards at mouth	333									
CATCH										
Oysters:	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*
Seed, public, spring	860,500	$216,125	56,855	$14,282	8,545	$2,125	100	$50	926,000	$232,582
Seed, public, fall			11,000	2,750					11,000	2,750
Total	860,500	216,125	67,855	17,032	8,545	2,125	100	50	937,000	235,332

Fisheries of New Jersey, 1933—Continued

SEED OYSTER FISHERY: BY COUNTIES

Item	Atlantic		Burlington		Cumberland		Ocean	
OPERATING UNITS								
Fishermen:	*Number*		*Number*		*Number*		*Number*	
On vessels					1,514			
On boats and shore:								
Regular	26		20		20		2	
Casual	3		30		70		4	
Total	29		50		1,604		6	
Vessels, sail					139			
Net tonnage					2,881			
Boats:								
Motor	23		45		14		4	
Other	5		3		72		1	
Apparatus:								
Dredges					278			
Yards at mouth					333			
Tongs	19		26		90		5	
Rakes	10		24					
CATCH								
Oysters:	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*
Seed, public, spring	5,775	$1,427	13,150	$3,287	905,650	$227,455	1,425	$413
Seed, public, fall					11,000	2,750		
Total	5,775	1,427	13,150	3,287	916,650	230,205	1,425	413

NOTE.—Of the total number of persons fishing for seed oysters, 1,583 are duplicated among those fishing for market oysters or other species. Similarly the following craft and gear are duplicated; 80 sail vessels, 9 motor boats, 61 other boats, 160 dredges, and 108 tongs.

PENNSYLVANIA

Fisheries of Pennsylvania, 1933

OPERATING UNITS: BY GEAR

Item	Haul seines, drift	Gill nets	Total, exclusive of duplication
	Number	*Number*	*Number*
Fishermen, on boats and shore, casual	39	14	53
Boats:			
Motor		5	5
Other	12	2	14
Apparatus:			
Number	12	7	
Length, yards	1,635		
Square yards		5,200	

CATCH: BY GEAR

Species	Haul seines		Gill nets, drift	
	Pounds	*Value*	*Pounds*	*Value*
Alewives	8,775	$88		
Carp	640	64		
Shad	1,352	251	865	$141
Suckers	40,600	2,436		
Total	51,367	2,839	865	141

Fisheries of Pennsylvania, 1933—Continued

OPERATING UNITS: By counties

Item	Bucks	Philadelphia
	Number	*Number*
Fishermen, on boats and shores, casual	43	10
Boats:		
Motor		5
Other	14	
Apparatus:		
Haul seines	12	
Length, yards	1,635	
Gill nets, drift	2	5
Square yards	900	4,300

CATCH: By counties

Species	Bucks		Philadelphia	
	Pounds	*Value*	*Pounds*	*Value*
Alewives	8,775	$88		
Carp	640	64		
Shad	1,515	278	702	$114
Suckers	40,600	2,436		
Total	51,530	2,866	702	114

DELAWARE

Fisheries of Delaware, 1933

OPERATING UNITS: By gear

Item	Purse seines, menhaden	Haul seines	Gill nets			Lines		Pound nets	Stop nets
			Drift	Run-around	Stake	Hand	Trawl		
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	282								
On boats and shore:									
Regular		13	11	12	6	7	2		
Casual		217	82	32	18	5		24	12
Total	282	230	93	44	24	12	2	24	12
Vessels:									
Steam	10								
Net tonnage	1,237								
Boats:									
Motor			25	16	4	5		1	
Other		61	26	15	12	7	2	11	7
Accessory boats	30								
Apparatus:									
Number	10	61	63	33	99	12	2	32	7
Length, yards	3,140	18,990							
Square yards			145,720	41,450	7,770				1,820
Hooks, baits or snoods						24	1,300		

Fisheries of Delaware, 1933—Continued

OPERATING UNITS: By gear—Continued

Item	Fyke nets	Dip nets	Pots		Dredges			Tongs	By hand	Total, exclusive of duplication
			Eel	Lobster	Clam	Crab	Oyster			
shermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels					41	19	41			350
On boats and shore:										
Regular	19	10	11							34
Casual	43	41	17	8	29			32	24	478
Total	62	51	28	8	70	19	41	32	24	862
ssels:										
Steam										10
Net tonnage										1,237
Motor					12	6	7			16
Net tonnage					153	99	110			229
Sail							1			1
Net tonnage							8			8
Total vessels					12	6	8			27
Total net tonnage					153	99	118			1,474
ats:										
Motor	8		3	4	13			8		77
Other	40	23	16					24		181
paratus:										
Number	449	51	876	165	33	11	16	32		
Yards at mouth					47	20	23			

CATCH: By gear

Species	Purse seines, menhaden		Haul seines		Gill nets					
					Drift		Run-around		Stake	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
ewives			879,720	$2,179	17,260	$183			215,460	$2,056
efish					3,400	170			420	22
rp			11,240	685						
tfish and bullheads			420	20						
aker			31,160	487	19,260	307	11,540	$180	680	9
unders			1,130	62					6,240	326
nhaden	33,600,000	$111,700								
llet							233,000	2,390		
ad			2,310	242	19,720	1,715			280	34
t			13,920	373	15,600	478	2,400	52		
neteagues or "sea trout", gray			90,580	2,565	12,400	184	9,290	144	9,460	415
ped bass			2,220	301	860	105			7,540	861
rgeon					1,200	300				
ite perch			14,380	725	1,620	90			4,900	222
niting			480	30						
llow perch			4,740	294						
Total	33,600,000	111,700	1,052,300	7,963	91,320	3,532	256,230	2,766	244,980	3,945

Species	Lines				Pound nets		Stop nets	
	Hand		Trawl					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
ewives					22,400	$150		
efish	900	$44						
rp							2,220	$136
tfish and bullheads							180	12
d			2,240	$69				
aker	4,490	85						
m, red or redfish	520	16						
s, common					840	59		
unders					240	12		
neteagues or "sea trout", gray	1,450	33						
ped bass					360	38		
ite perch					3,240	154		
bs, king					506,600	529		
Total	7,360	178	2,240	69	533,680	942	2,400	148

Fisheries of Delaware, 1933—Continued

CATCH: BY GEAR—Continued

Species	Fyke nets		Dip nets		Pots			
					Eel		Lobster	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	14,140	$218						
Carp	12,960	768						
Catfish and bullheads	1,245	84						
Eels, common	9,900	572			42,400	$3,261		
Flounders	1,840	92						
Shad	15	2						
Striped bass	720	77						
White perch	6,510	299						
Yellow perch	1,740	104						
Crabs, soft			36,000	$7,200				
Lobsters							12,840	$2,568
Terrapin, diamond-back	250	160						
Turtles, snapper	8,504	679						
Total	57,824	3,055	36,000	7,200	42,400	3,261	12,840	2,568

Species	Dredges						Tongs		By hand	
	Clam		Crab		Oyster					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Crabs:										
Hard			96,600	$1,295						
King									60,000	$66
Clams:										
Hard, public	150,500	$29,895	40,800	415						
Hard, private	2,640	538			7,000	$1,360				
Oysters:										
Market, public, spring							39,600	$5,140		
Market, private, spring					20,320	2,460	4,200	525		
Market, private, fall					165,240	20,065				
Terrapin, diamond-back									160	100
Total	153,140	30,433	137,400	1,710	192,560	23,885	43,800	5,665	60,160	166

OPERATING UNITS: BY COUNTIES

Item	Kent	New Castle	Sussex
	Number	*Number*	*Number*
Fishermen:			
On vessels	58		307
On boats and shore:			
Regular	2	3	29
Casual	179	48	251
Total	239	51	587
Vessels:			
Steam			10
Net tonnage			1,237
Motor	14		3
Net tonnage	195		204
Sail	1		
Net tonnage	8		
Total vessels	15		13
Total net tonnage	203		1,441
Boats:			
Motor	31	10	36
Other	56	20	105
Accessory boats			30
Apparatus:			
Purse seines, menhaden			10
Length, yards			3,140
Haul seines	18	10	33
Length, yards	6,940	770	11,280

Fisheries of Delaware, 1933—Continued

OPERATING UNITS: By counties—Continued

Item	Kent	New Castle	Sussex
Apparatus—Continued.			
Gill nets:	*Number*	*Number*	*Number*
Drift	7	18	38
Square yards	11,200	102,800	31,720
Runaround	3		30
Square yards	8,600		32,850
Stake	46		53
Square yards	5,120		2,650
Lines:			
Hand			12
Hooks			24
Trawl			2
Hooks			1,300
Pound nets	15		17
Stop nets	2	5	
Square yards	800	1,020	
Fyke nets	80	122	247
Dip nets			51
Pots:			
Eel	30		846
Lobster			165
Dredges:			
Clam	29		4
Yards at mouth	41		6
Crab	7		4
Yards at mouth	13		7
Oyster	14		2
Yards at mouth	20		3
Tongs	26		6

CATCH: By counties

Species	Kent		New Castle		Sussex	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	1,580	$18	1,800	$23	1,145,600	$4,745
Bluefish					4,720	236
Carp	4,540	240	18,400	1,185	3,480	164
Catfish and bullheads	125	6	1,080	71	640	39
Cod					2,240	69
Croaker	23,500	307			43,630	761
Drum, red or redfish					520	16
Eels, common	2,160	86	7,640	382	43,340	3,424
Flounders					9,450	492
Menhaden					33,600,000	111,700
Mullet					233,000	2,390
Shad	295	36	7,260	718	14,770	1,239
Spot	9,080	265			22,840	638
Squeteague or "sea trout", gray	77,270	2,398			45,910	943
Striped bass	2,740	363	40	6	8,920	1,013
Sturgeon			1,200	300		
White perch	6,060	295	600	44	23,990	1,151
Whiting			480	30		
Yellow perch			340	20	6,140	378
Crabs:						
Hard	44,600	545			52,000	750
King	566,600	595				
Soft					36,000	7,200
Lobsters					12,840	2,568
Clams:						
Hard, public	189,700	29,950			1,600	360
Hard, private	9,240	1,808			400	90
Oysters:						
Market, public, spring	27,600	3,540			12,000	1,600
Market, private, spring	24,520	2,985				
Market, private, fall	139,760	16,425			25,480	3,640
Terrapin, diamond-back	250	160	160	100		
Turtles, snapper	4,504	439	4,000	240		
Total	1,134,124	60,461	43,000	3,119	35,349,510	145,606

Fisheries of Delaware, 1933—Continued

SEED OYSTER FISHERY: By gear

Item	Dredges		Tongs		Total, exclusive of duplication	
OPERATING UNITS						
Fishermen:	*Number*		*Number*		*Number*	
On vessels	48				48	
On boats and shore, casual	3		40		43	
Total	51		40		91	
Vessels, sail	7				7	
Net tonnage	96				96	
Boats, other than motor	1		40		41	
Apparatus:						
Number	16		40			
Yards at mouth	21					
CATCH						
Oysters, seed, public, spring	*Bushels* 25,340	*Value* $6,330	*Bushels* 9,600	*Value* $2,400	*Bushels* 34,940	*Value* $8,730

SEED OYSTER FISHERY: By counties

Item	Kent		Sussex	
OPERATING UNITS				
Fishermen:	*Number*		*Number*	
On vessels	33		15	
On boats and shore, casual	37		6	
Total	70		21	
Vessels, sail	5		2	
Net tonnage	60		36	
Boats, other than motor	35		6	
Apparatus:				
Dredges	12		4	
Yards at mouth	16		5	
Tongs	34		6	
CATCH				
Oysters, seed, public, spring	*Bushels* 27,140	*Value* $6,780	*Bushels* 7,800	*Value* $1,950

Note.—Of the total number of persons fishing for seed oysters, 56 are duplicated among those fishing for market oysters or other species. Similarly the following craft and gear are duplicated: 6 sail vessels, 31 small boats other than motor, 12 dredges, and 31 tongs.

VESSEL FISHERIES AT NEW YORK CITY[7]

During 1933, fishing vessels of 5 net tons capacity or greater landed 24,455,000 pounds of fishery products at New York City. The landings consisted of bluefish, 2,467,000 pounds; bonito, 9,000 pounds; butterfish, 45,000 pounds; cod, 2,548,000 pounds; croaker, 4,000 pounds; eels, 3,000 pounds; flounders, 6,712,000 pounds; haddock, 8,209,000 pounds; hake, 5,000 pounds; halibut, 9,000 pounds; sea herring, 3,000 pounds; king whiting, 6,000 pounds; mackerel, 1,288,000 pounds; pollock, 5,000 pounds; scup, 212,000 pounds; sea bass, 159,000 pounds; swordfish, 3,000 pounds; tilefish, 1,621,000 pounds; and sea scallops, 2,147,000 pounds. Since the landings at Groton, Conn., were inconsiderable they have not been included with those at New York City as has been the custom in the past several years. Data on the landings at New York City are included also in the catch by States.

[7] Statistics on the landings at New York City are collected by J. H. Matthews, executive secretary, Middle Atlantic Fisheries Association.

SHAD FISHERY OF THE HUDSON RIVER

The shad fishery of the Hudson River in 1933 was prosecuted by 317 fishermen who used 11 motor boats, 145 other boats, 2 haul seines having a combined length of 280 yards, 119 drift gill nets having a total area of 406,871 square yards, and 27 stake gill nets having a total area of 28,760 square yards. The total commercial catch amounted to 154,437 shad having a weight of 518,680 pounds and a value to the fishermen of $40,729. This is a decrease of 3 percent in the number of shad and 20 percent in their value as compared with 1932. The average price per pound received by the fishermen in 1933 was about 8 cents as compared with 10 cents in 1932.

Drift gill nets accounted for 61 percent of the weight of the shad taken while stake gill nets accounted for 39 percent. Small quantities, amounting to less than one-half of 1 percent, were taken by haul seines.

Statistics of the catch of shad in the Hudson River are included also in the catch data for New York and New Jersey which are published elsewhere in this report.

Shad fishery of the Hudson River, 1933

Item	New York			New Jersey			Total		
Fishermen:	*Number*	*Pounds*	*Value*	*Number*	*Pounds*	*Value*	*Number*	*Pounds*	*Value*
On boats and shore:									
Regular	55			6			61		
Casual	212			44			256		
Total	267			50			317		
Boats:									
Motor				11			11		
Other	133			12			145		
Apparatus:									
Haul seines	2						2		
Length, yards	280						280		
Gill nets:									
Drift	118			1			119		
Square yards	404,873			1,998			406,871		
Stake	14			13			27		
Square yards	13,370			15,390			28,760		
Shad caught:									
With haul seines	576	1,670	$155				576	1,670	$155
With drift gill nets	96,411	314,693	25,182	150	524	$40	96,561	315,217	25,222
With stake gill nets	8,300	31,293	2,819	49,000	170,500	12,533	57,300	201,793	15,352
Total	105,287	347,656	28,156	49,150	171,024	12,573	154,437	518,680	40,729

FISHERIES OF THE CHESAPEAKE BAY STATES

(Area XXIII) [8]

The yield of the commercial fisheries of the Chesapeake Bay States (Maryland and Virginia) during 1933 amounted to 272,380,052 pounds, valued at $5,060,829 to the fishermen, representing a decrease

[8] This is the number given to this area by the North American Council on Fishery Investigations. It should be explained that there are included under this area, craft whose principal fishing ports are in the area but at times fish elsewhere. A notable example is the southern trawl fishery, which extends into Area XXIV. Data on the operating units and catch of the fisheries of the Chesapeake Bay States have been taken largely from statistics collected by the State fishery agencies of Maryland and Virginia. Supplementary surveys, compilations, and analyses have been made by agents of this Bureau in order that the figures may be presented in a manner comparable with those of other sections. It should be observed that the persons engaged, gear and craft employed, and catch of the seed oyster fishery are not included among the statistics of the fishery for market oysters and other species but are shown in separate tables in this section. For a clearer understanding of the statistics published in this section, the reader is referred to the section in the latter part of this document entitled "Statistical survey procedure."

of 24 percent in volume and 14 percent in value as compared with the catch in the previous year. These fisheries gave employment to 20,142 fishermen as compared with 20,946 in 1932.

There were 502 fishery wholesale and manufacturing establishments in the two States in 1933 as compared with 564 in 1931 when the most recent previous survey of such concerns was made. In 1933 these establishments employed 11,596 persons, paid $2,366,762 in salaries and wages, and produced manufactured products (canned, cured, packaged, and byproducts), valued at $7,245,169. In 1931 the wholesale and manufacturing firms employed 12,333 persons, paid $2,802,420 in salaries and wages, and produced manufactured products, valued at $7,905,626.

Fisheries of the Chesapeake Bay States, 1933

SUMMARY OF CATCH

Product	Maryland		Virginia		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Fish	13,498,490	$370,360	176,209,213	$1,685,109	189,707,703	$2,055,469
Shellfish, etc	41,863,299	1,363,495	40,809,050	1,641,865	82,672,349	3,005,360
Total	55,361,789	1,733,855	217,018,263	3,326,974	272,380,052	5,060,829

OPERATING UNITS: BY STATES

Item	Maryland	Virginia	Total
	Number	*Number*	*Number*
Fishermen:			
On vessels	654	1,471	2,125
On boats and shore:			
Regular	5,559	7,073	12,632
Casual	2,314	3,071	5,385
Total	8,527	11,615	20,142
Vessels:			
Steam		25	25
Net tonnage		2,831	2,831
Motor		105	105
Net tonnage		1,761	1,761
Sail	154	3	157
Net tonnage	1,727	22	1,749
Total vessels	154	133	287
Total net tonnage	1,727	4,614	6,341
Boats:			
Motor	3,280	4,212	7,492
Other	2,316	3,621	5,937
Accessory boats		102	102
Apparatus:			
Purse seines:			
Menhaden		34	34
Length, yards		10,160	10,160
Haul seines	333	191	524
Length, yards	36,849	52,063	88,912
Gill nets:			
Anchor	74		74
Square yards	26,654		26,654
Drift	296	410	706
Square yards	367,311	337,045	704,356
Stake	3,683	4,913	8,596
Square yards	298,963	266,575	565,538
Lines:			
Hand	12		12
Hooks	24		24
Trot with baits or snoods	1,547	1,075	2,620
Baits or snoods	938,350	499,610	1,437,960
Pound nets	690	1,880	2,572
Stop nets		6	0
Square yards		10,300	10,300

Fisheries of the Chesapeake Bay States, 1933—Continued

OPERATING UNITS: By States—Continued

Item	Maryland	Virginia	Total
Apparatus—Continued	*Number*	*Number*	*Number*
Fyke nets	2,181	649	2,830
Dip nets	1,458	1,675	3,133
Otter trawls	----------	27	27
Yards at mouth	----------	803	803
Pots, eel	8,835	35	8,870
Spears	2	----------	2
Scrapes	642	41	683
Yards at mouth	642	41	683
Dredges:			
Crab	----------	130	130
Yards at mouth	----------	235	235
Oyster	418	298	716
Yards at mouth	454	339	793
Scallop	----------	2	2
Yards at mouth	----------	6	6
Tongs	4,753	3,748	8,501
Rakes	20	362	382
Picks	----------	540	540

CATCH: By States

Species	Maryland		Virginia		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	6,549,673	$43,164	19,177,448	$86,766	25,727,121	$129,930
Black bass	76,491	5,725	----------	----------	76,491	5,725
Bluefish	118,700	8,106	684,359	27,029	803,059	35,135
Bonito	9,100	194	10,092	455	19,192	649
Butterfish	589,263	12,709	2,285,353	55,203	2,874,616	67,912
Cabio or crab eater	1,100	44	18,842	791	19,942	835
Carp	169,833	11,406	428,464	16,877	598,297	28,283
Catfish and bullheads	263,068	10,261	718,408	22,351	981,476	32,612
Cod	100	2	6,866	137	6,966	139
Crappie	1,379	52	----------	----------	1,379	52
Croaker	1,806,866	24,349	14,235,182	186,720	16,042,048	211,069
Dolphin	500	75	----------	----------	500	75
Drum:						
Black	42,000	350	80,480	1,594	122,480	1,944
Red or redfish	7,200	140	51,539	1,456	58,739	1,596
Eels	203,413	11,727	108,634	4,347	312,047	16,074
Flounders	69,564	3,194	1,083,413	52,031	1,152,977	55,225
Gizzard shad	27,504	584	116,820	2,399	144,324	2,983
Haddock	----------	----------	47	1	47	1
Hake	----------	----------	23,455	387	23,455	387
Harvestfish	19,535	831	160,050	3,585	179,585	4,416
Hickory shad	11,426	249	56,228	1,196	67,654	1,445
King whiting or "kingfish"	9,900	396	64,303	2,050	74,203	2,446
Mackerel	27,200	272	16,216	901	43,416	1,173
Menhaden	----------	----------	115,990,500	385,825	115,990,500	385,825
Mullet	20,100	1,206	44,541	1,648	64,641	2,854
Pigfish	----------	----------	60,765	520	60,765	520
Pike or pickerel	28,688	3,913	200	11	28,888	3,924
Pollock	----------	----------	25	1	25	1
Pompano	----------	----------	4,530	248	4,530	248
Scup	82,500	1,650	1,506,131	36,324	1,588,631	37,974
Sea bass	10,100	505	332,075	9,392	342,175	9,897
Sea robin	500	25	----------	----------	500	25
Shad	1,374,315	133,142	4,816,714	440,027	6,191,029	573,169
Sharks	----------	----------	10,225	159	10,225	159
Silver perch	1,062	22	----------	----------	1,062	22
Spanish mackerel	1,400	70	66,501	3,950	67,901	4,020
Spot	30,627	704	716,665	18,010	747,292	18,714
Squeteague or "sea trout":						
Gray	1,153,654	32,043	12,310,138	230,981	13,463,792	263,024
Spotted	8,263	497	164,415	12,997	172,678	13,494
Striped bass	313,795	37,739	518,900	63,474	832,695	101,213
Sturgeon	685	115	8,141	1,596	8,826	1,711
Suckers	7,559	277	----------	----------	7,559	277
Sunfish	2,112	42	----------	----------	2,112	42
Swellfish	----------	----------	1,065	53	1,065	53
Tautog	5,000	150	1,048	21	6,048	171
Thimble-eyed mackerel	----------	----------	11,250	169	11,250	169
White perch	285,870	15,802	247,420	9,828	533,290	25,630
Whiting	500	25	----------	----------	500	25
Yellow perch	167,945	8,603	71,765	3,599	239,710	12,202
Total	13,498,490	370,360	176,209,213	1,685,109	189,707,703	2,055,469

Fisheries of the Chesapeake Bay States, 1933—Continued

CATCH: BY STATES—Continued

Species	Maryland		Virginia		Total	
SHELLFISH, ETC.	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Crabs:						
Hard	26,648,100	$331,747	23,911,375	$283,898	50,559,475	$615,645
Soft	3,449,029	238,401	2,067,957	143,351	5,516,986	381,752
Lobsters			131	2	131	2
Shrimp			371	20	371	20
Clams, hard, public	41,536	3,894	1,169,266	264,258	1,210,802	268,152
Oysters: [1]						
Market, public, spring	3,328,176	192,478	1,660,049	95,142	4,988,225	287,620
Market, public, fall	7,279,200	477,725	2,632,005	148,189	9,911,205	625,914
Market, private, spring	390,125	43,983	3,756,701	286,440	4,146,826	330,423
Market, private, fall	687,283	74,011	5,419,017	407,284	6,106,300	481,295
Scallops, sea			72,645	8,094	72,645	8,094
Squid	37,500	750	107,793	2,627	145,293	3,377
Terrapin, diamond-back	1,800	500	10,240	2,500	12,040	3,000
Turtles, snapper	550	6	1,500	60	2,050	66
Total	41,863,299	1,363,495	40,809,050	1,641,865	82,672,349	3,005,360
Grand total	55,361,789	1,733,855	217,018,263	3,326,974	272,380,052	5,060,829

[1] Statistics on oysters used in this table are based on yields of 6.57 pounds of meats to the bushel for market oysters in Maryland and 6.6 pounds in Virginia.

PRODUCTION OF CERTAIN SHELLFISH IN NUMBER AND BUSHELS

Product	Maryland		Virginia		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Crabs:						
Hard—number	79,944,300	$331,747	71,734,125	$283,898	151,678,425	$615,645
Soft—do	13,796,116	238,401	8,271,828	143,351	22,067,944	381,752
Clams, hard—bushels	5,192	3,894	146,158	264,258	151,350	268,152
Oysters:						
Market, public, spring—do	506,572	192,478	251,523	95,142	758,095	287,620
Market, public, fall—do	1,107,945	477,725	398,789	148,189	1,506,734	625,914
Market, private, spring—do	59,380	43,983	569,197	286,440	628,577	330,423
Market, private, fall—do	104,609	74,011	821,063	407,284	925,672	481,295
Scallops, sea—do			12,107	8,094	12,107	8,094

SEED OYSTER FISHERY

Item	Virginia	Item	Virginia	
OPERATING UNITS		CATCH		
		Oysters:	*Bushels*	*Value*
Fishermen:		Seed, public, spring	574,620	$60,880
On boats and shore:	*Number*	Seed, public, fall	815,240	85,934
Regular	1,650	Seed, private, spring	35,600	7,720
Casual	67	Seed, private, fall	56,800	11,360
Total	1,717	Total	1,482,260	165,894
Boats:				
Motor	804			
Other	286			
Apparatus:				
Tongs	1,474			
Rakes	130			

NOTE.—Of the number of persons fishing for seed oysters, 1,636 are duplicated among those fishing for market oysters or other species. Similarly the following craft and gear are duplicated: 744 motor boats, 267 other boats, and 1,161 tongs.

Industries related to the fisheries of the Chesapeake Bay States, 1933

OPERATING UNITS, SALARIES, AND WAGES

Item	Maryland	Virginia	Total
Transporting:			
Persons engaged:	*Number*	*Number*	*Number*
On vessels	291	578	869
On boats		25	25
Total	291	603	894
Vessels:			
Motor	152	269	421
Net tonnage	2,177	2,752	4,929
Sail	11		11
Net tonnage	307		307
Total vessels	163	269	432
Total net tonnage	2,484	2,752	5,236
Boats		102	102
Wholesale and manufacturing:			
Establishments	308	194	502
Persons engaged:			
Proprietors	438	226	664
Salaried employees	175	140	315
Wage earners:			
Average for season	5,822	4,795	10,617
Average for year	2,707	1,997	4,704
Paid to salaried employees	$322,981	$157,830	$480,811
Paid to wage earners	$1,034,205	$851,746	$1,885,951
Total salaries and wages	$1,357,186	$1,009,576	$2,366,762
Fishermen's manufacturing	14		14

PRODUCTS MANUFACTURED

Item	Maryland		Virginia	
By manufacturing establishments:				
Alewives:				
Salted:	*Quantity*	*Value*	*Quantity*	*Value*
Corned—pounds	108,500	$2,450	1,070,000	$17,297
Pickled [1]—do	903,200	30,429	[2]	[2]
Tight-pack cut—do	474,000	10,700	3,583,020	91,036
Tight-pack roe—do	[2]	[2]	171,780	4,422
Canned—standard cases	16,575	36,500	3,705	9,863
Roe, canned—do	7,336	29,390	20,375	78,002
Dry scrap—tons	[2]	[2]	524	13,137
Oil—gallons	[2]	[2]	29,900	3,368
Butterfish, smoked—pounds	92,500	23,400		
Chubs, cisco, and tullibee, smoked—do	148,000	43,100		
Croaker, fresh fillets—do			30,500	3,720
Flounders, fresh fillets—do			30,000	5,040
Haddock, fresh fillets—do			9,500	1,470
Menhaden products:				
Dry scrap and meal—tons			13,846	434,647
Oil—gallons			1,555,995	231,117
Salmon, smoked—pounds	158,000	55,800		
Sea bass, fresh fillets—do			62,000	7,900
Squeteagues, fresh fillets—do			77,200	10,038
Sturgeon, smoked—do	10,250	9,138		
Whitefish, smoked—do	73,000	24,050		
Crabs, blue:				
Meat, packaged, fresh-cooked—do	3,662,539	785,312	2,086,900	534,714
Dry scrap and meal—tons	[2]	[2]	850	15,412
Oysters, fresh-shucked—gallons	1,907,211	1,985,599	1,676,581	1,803,878
Oyster-shell products:				
Poultry feed—tons	34,298	175,969	15,537	91,940
Lime—do	20,998	30,017	11,576	37,595
Lime, "burned"—do			3,314	22,948

[1] This item is usually an intermediate product and, although included in the total, may be shown in its final stage of processing in this or another State.

[2] The production of this item is included under "Unclassified products".

Industries related to the fisheries of the Chesapeake Bay States, 1933—Continued

PRODUCTS MANUFACTURED—Continued

Item	Maryland		Virginia	
	Quantity	*Value*	*Quantity*	*Value*
By manufacturing establishments—Continued.				
Unclassified products:		[3]		
Fresh-packaged—pounds	[5] 132,300	[5] $16,565	[4] 64,438	[4] $10,315
Smoked—do	[6] 588	[6] 7,640	[7] 972	[7] 16,635
Scrap and meal—tons		[8] 501,368		[9] 33,248
Miscellaneous				
Total		3,767,427		3,477,742
By fishermen:				
Alewives, salted, tight-pack cut—pounds	175,000	3,500		
Sturgeon roe, salted—do	60	48		
Total	175,060	3,548		
Grand total		3,770,975		3,477,742

[3] This has been included under "Miscellaneous".
[4] Includes fresh fillets of cod, red drum, hake and Spanish mackerel, and fresh-shucked hard clams.
[5] Includes smoked alewives, carp, eels, shad, lake trout, kippered salmon, and sea herring bloaters.
[6] Includes alewife dry scrap and blue crab meal.
[7] Includes miscellaneous dry and acidulated scrap.
[8] Includes canned hard clam chowder and terrapin products; fresh-packaged alewife roe; salted tight-pack alewife roe; alewife oil; pearl essence; and marine shell products.
[9] Includes canned crab meat, pickled alewives, and miscellaneous oil.

NOTE.—The total value of manufactured products in the Chesapeake Bay States was as follows: By manufacturing establishments, $7,245,169; and by fishermen, $3,548. Some of the above products may have been imported from another State or a foreign country; therefore, they cannot be correlated directly with the catch within the State. Of the total number of persons engaged in transporting vessels and boats 295 have been included as fishermen and among the total number of persons engaged in the preparation of fishermen's prepared products, all have been included as fishermen.

MARYLAND

Fisheries of Maryland, 1933

OPERATING UNITS: BY GEAR

Item	Haul seines	Gill nets			Lines		Pound nets	Fyke nets
		Anchor	Drift	Stake	Hand	Trot with baits or snoods		
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On boats and shore:								
Regular	426	6	36	75	6	1,180	453	63
Casual	390	10	262	148		127	119	71
Total	816	16	298	223	6	1,307	572	134
Boats:								
Motor	139	7	68	77	3	1,257	233	53
Other	300	4	117	116		44	168	83
Apparatus:								
Number	333	74	296	3,683	12	1,547	690	2,181
Length, yards	36,849							
Square yards		26,654	367,311	298,963				
Hooks, baits, or snoods					24	938,350		

Item	Dip nets	Pots, eel	Spears	Scrapes	Dredges, oyster	Tongs	Rakes	By hand	Total, exclusive of duplication
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels					654				654
On boats and shore:									
Regular	985	80	2	397	83	3,821	20		5,559
Casual	473	61				932		15	2,314
Total	1,458	141	2	397	737	4,753	20	15	8,527
Vessels, sail					154				154
Net tonnage					1,727				1,727
Boats:									
Motor	100	79	2		23	2,301	2		3,280
Other	1,343	86		321	32	168	20	15	2,316
Apparatus:									
Number	1,458	8,835	2	642	418	4,753	20		
Yards at mouth				642	454				

Fisheries of Maryland, 1933—Continued

CATCH: BY GEAR

Species	Haul seines		Gill nets					
			Anchor		Drift		Stake	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	65,550	$834			20,950	$368	19,700	$496
Black bass	47,967	3,667					1,345	81
Bluefish	17,130	1,086			49,000	4,200	4,080	243
Butterfish	8,000	520						
Carp	143,618	9,988			510	17	1,100	47
Catfish and bullheads	60,020	2,134			19	1	1,295	57
Crappie	175	14						
Croaker	317,373	5,431			8,200	250	12,708	390
Drum, red or redfish	2,700	40						
Eels, common	1,314	68					40	2
Flounders	3,030	142					200	10
Gizzard shad	3,283	53					264	4
Hickory shad					160	3	108	11
Mullet	100	6			20,000	1,200		
Pike or pickerel	15,241	1,994					1,031	154
Shad	5,918	616	19,600	$2,223	275,280	26,670	148,688	15,460
Silver perch	851	17						
Spot	5,710	162						
Squeteagues or "sea trout":								
Gray	148,603	7,653			3,500	158	2,240	108
Spotted	7,200	410						
Striped bass	84,253	11,529	4,500	570	32,850	3,766	46,012	5,298
Sturgeon					285	35		
Suckers	3,698	117			28	1		
Sunfish	712	14						
White perch	61,529	3,593			3,550	228	12,120	754
Whiting	500	25						
Yellow perch	38,430	1,836			3,000	360	2,982	192
Crabs, soft	266,884	27,013						
Turtles, snapper	50	3						
Total	1,309,839	78,965	24,100	2,793	417,332	37,257	253,913	23,307

Species	Lines				Pound nets		Fyke nets	
	Hand		Trot with baits or snoods					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives					6,438,813	$41,357	4,660	$109
Black bass					325	26	26,854	1,951
Bluefish	10,000	$600			38,490	1,977		
Bonito	400	20			8,700	174		
Butterfish					581,263	12,189		
Cabio or crab eater					1,100	44		
Carp					12,532	615	12,073	739
Catfish and bullheads					94,997	3,592	106,737	4,477
Cod					100	2		
Crappie							1,204	38
Croaker					1,464,512	18,193	4,073	85
Dolphin	500	75						
Drum:								
Black					42,000	350		
Red or redfish					4,500	100		
Eels:								
Common					24,712	1,603	6,548	413
Other	200	2			50	1		
Flounders	5,000	250			60,534	2,748	800	44
Gizzard shad					23,397	498	560	29
Harvestfish					19,535	831		
Hickory shad					11,158	235		
King whiting or "kingfish"					9,900	396		
Mackerel					27,200	272		
Pike or pickerel					1,134	171	11,282	1,594
Scup	2,500	50			80,000	1,600		
Sea bass	10,000	500			100	5		
Sea robin					500	25		
Shad					924,829	88,173		
Silver perch					111	3	100	2
Spanish mackerel					1,400	70		
Spot					24,917	542		
Squeteagues or "sea trout":								
Gray					996,111	23,930	3,200	194
Spotted					1,063	87		
Striped bass					141,709	16,011	4,471	565
Sturgeon					400	80		

Fisheries of Maryland, 1933—Continued

CATCH: BY GEAR—Continued

Species	Lines				Pound nets		Fyke nets	
	Hand		Trot with baits or snoods					
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Suckers					360	$9	3,473	$150
Sunfish							1,400	28
Tautog					5,000	150		
White perch					123,190	6,567	85,481	4,660
Yellow perch					11,259	686	112,274	5,529
Crabs, hard			25,543,900	$317,945				
Squid					37,500	750		
Turtles, snapper							500	3
Total	28,600	$1,497	25,543,900	317,945	11,213,401	224,062	385,690	20,610

Species	Dip nets		Pots, eel		Spears		Scrapes	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Eels, common			164,549	$9,338	6,000	$300		
Crabs:								
Hard	88,300	$1,104					1,015,900	$12,698
Soft	2,441,379	166,937					740,766	44,451
Total	2,529,679	168,041	164,549	9,338	6,000	300	1,756,666	57,149

Species	Dredges, oyster		Tongs		Rakes		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Clams, hard, public			24,640	$2,310	9,856	$924	7,040	$660
Oysters:								
Market, public, spring	627,196	$37,563	2,700,980	154,915				
Market, public, fall	1,104,010	76,510	6,175,190	401,215				
Market, private, spring	76,600	9,655	313,525	34,328				
Market, private, fall	95,384	11,655	591,899	62,356				
Terrapin, diamond-back							1,800	500
Total	1,903,190	135,383	9,806,234	655,124	9,856	924	8,840	1,160

OPERATING UNITS: BY COUNTIES

Item	Anne Arundel	Baltimore	Calvert	Caroline	Cecil	Charles	Dorchester	Harford
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels		46	12				170	
On boats and shore:								
Regular	534	20	212	2	55	112	773	13
Casual	366	60	94	46	88	244	198	55
Total	900	126	318	48	143	356	1,141	68
Vessels, sail		8	3				40	
Net tonnage		196	83				356	
Boats:								
Motor	338	30	132	2	52	154	514	25
Other	200	42	139	33	51	90	219	29
Apparatus:								
Haul seines	46	13	6	5	27	25	3	10
Length, yards	2,425	2,577	1,950	1,535	5,695	4,620	1,050	2,310
Gill nets:								
Anchor					74			
Square yards					26,654			
Drift	5			37	21	40	15	20
Square yards	400			1,690	45,912	125,744	18,733	43,159
Stake	15	81		1	113	1,202	261	310
Square yards	1,390	1,097		24	7,527	94,428	6,411	40,200
Lines:								
Trot with baits or snoods	77	41	43			19	548	
Baits or snoods	44,200	12,300	19,500			19,000	237,200	
Pound nets	35	10	19	9	41	40	170	6
Fyke nets	5	248		14	1,155	29		119
Dip nets	150	10	126			27	158	
Pots, eel	305	381		25	590	100	2,230	151
Dredges, oyster		16	6				88	
Yards at mouth		24	9				93	
Tongs	745		226			218	609	

Fisheries of Maryland, 1933—Continued

OPERATING UNITS: By counties—Continued

Item	Kent	Prince Georges	Queen Annes	St. Marys	Somerset	Talbot	Wicomico	Worcester
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels					364	62		
On boats and shore:								
Regular	544	11	693	436	1,026	634	337	157
Casual	234	24	53	329	140	231	118	34
Total	778	35	746	765	1,530	927	455	191
Vessels, sail					87	16		
Net tonnage					965	127		
Boats:								
Motor	297	10	340	325	395	424	176	66
Other	175	16	117	235	598	211	43	118
Apparatus:								
Haul seines	105	9	75	4	3	1	1	
Length, yards	6,722	1,360	3,390	1,240	1,075	400	500	
Gill nets:								
Drift	87	8		1	13	3	43	3
Square yards	69,600	12,385		4,000	3,460	4,998	36,900	330
Stake	934		9		189	24	544	
Square yards	112,000		1,080		3,148	4,890	26,768	
Lines:								
Hand								12
Hooks								24
Trot with baits or snoods	189		98	130	63	276	7	56
Baits or snoods	109,800		72,250	117,000	50,400	206,300	5,600	44,800
Pound nets	26	6	13	75	50	122	23	45
Fyke nets	420	39	38		23	45	42	4
Dip nets	100		103	198	418	165		3
Pots, eel	513	7	470	18		3,895		150
Spears								2
Scrapes					642			
Yards at mouth					642			
Dredges, oyster					230	32		46
Yards at mouth					252	43		33
Tongs	501		627	607	310	437	355	118
Rakes								20

CATCH: By counties

Species	Anne Arundel		Baltimore		Calvert		Caroline	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	858,609	$6,541	114,180	$735	193,150	$1,010	8,005	$116
Black bass							200	20
Bluefish	2,000	141	6,800	500	1,575	143		
Butterfish	7,500	225					3,000	240
Carp	2,140	107	15,964	1,063	660	18	1,325	79
Catfish and bullheads	2,645	136	21,013	620	5,185	240	10,805	381
Croaker	192,411	2,282	1,073	35	102,000	1,253	3,100	124
Eels, common	16,813	761	10,300	557	260	15	1,153	19
Flounders	1,981	111	500	20	575	38		
Gizzard shad	5,322	62	5,160	87	954	19	4,500	180
Harvestfish	35	1						
Hickory shad	1,632	34	200	4	200	4		
Pike or pickerel			375	73	207	31	173	31
Shad	90,532	8,301	2,270	228	68,082	7,234	11,384	1,365
Spot	8,367	201			100	2	225	9
Squeteagues or "sea trout", gray	308,216	11,648	3,000	180	5,000	220	4,000	320
Striped bass	4,666	430	8,188	1,081	7,291	1,093	9,850	1,442
Suckers					133	5	548	41
White perch	10,089	572	28,186	1,371	3,875	264	8,914	464
Yellow perch	375	25	12,954	702	740	52	670	44
Crabs:								
Hard	721,800	10,105	190,000	2,850	712,100	10,669		
Soft	102,049	9,721	2,700	450	195,187	12,365		
Oysters:								
Market, public, spring	470,470	26,884	57,750	2,475	125,513	11,972		
Market, public, fall	717,507	46,220	26,250	1,500	301,119	29,387		
Market, private, spring					70,000	6,900		
Market, private, fall					87,500	8,750		
Turtles, snapper	500	3						
Total	3,525,659	124,561	506,863	14,531	1,881,406	91,684	67,852	4,875

Fisheries of Maryland, 1933—Continued

CATCH: BY COUNTIES—Continued

Species	Cecil		Charles		Dorchester		Harford	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	757,600	$4,719	148,000	$821	462,212	$4,493	144,500	$1,325
Black bass	48,356	3,170	9,012	881			3,656	279
Bluefish			400	24	28,552	2,000		
Butterfish					200	20		
Carp	64,910	4,305	29,799	2,464	3,702	152	17,044	1,242
Catfish and bullheads	79,444	3,093	23,966	852	6,700	298	13,597	522
Crappie	1,000	24						
Croaker			5,000	100	268,125	3,893		
Eels, common	16,590	895	7,176	407	46,775	2,792	5,719	152
Flounders			87	5	12,969	506		
Gizzard shad			3,968	61				
Hickory shad	1,660	33	108	11	800	12	200	5
Pike or pickerel	12,965	1,631	814	125	50	8	5,685	866
Shad	115,778	11,789	124,962	10,101	103,182	10,882	56,810	5,864
Silver perch			562	12				
Spot			60	3	1,400	118		
Squeteagues or "sea trout":								
Gray	68	8	3,200	214	29,781	1,442		
Spotted					1,000	55		
Striped bass	36,139	4,284	39,909	4,727	29,356	3,394	16,408	2,100
Sturgeon			125	20				
Suckers	2,153	49	40	1			1,570	46
Sunfish	1,400	28					712	14
White perch	60,532	3,246	20,169	1,118	23,777	1,224	11,353	471
Yellow perch	89,600	3,888	3,864	256	20	1	10,024	614
Crabs:								
Hard			158,700	1,905	8,700,500	104,405		
Soft			2,775	239	545,251	32,732		
Oysters:								
Market, public, spring			65,044	5,575	398,639	24,221		
Market, public, fall			72,289	5,164	824,513	50,533		
Turtles, snapper	50	3						
Total	1,288,245	41,165	720,029	35,086	11,487,504	243,181	287,278	13,500

Species	Kent		Prince Georges		Queen Annes		St. Marys	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	187,240	$1,420	995	$31	21,185	$133	618,572	$3,117
Black bass	22	1	15,220	1,372				
Bluefish	4,013	185					4,340	270
Butterfish	100	10					2,990	152
Carp	9,282	390	17,243	1,119	1,919	139	2,076	88
Catfish and bullheads	50,760	1,845	7,100	280	2,096	80	4,000	160
Crappie			379	28				
Croaker	54,620	933	4,500	180	65,600	682	70,670	1,286
Drum, red or redfish							200	10
Eels, common	9,604	671	315	20	4,518	371	600	30
Flounders	1,751	89					5,355	237
Gizzard shad	1,000	20					1,000	15
Hickory shad	150	6					1,020	21
Pike or pickerel	6,890	953	1,299	154	30	6		
Shad	148,560	16,047	9,490	920	1,330	141	138,754	12,327
Silver perch			500	10				
Spot	1,450	34			3,000	60	925	40
Squeteagues or "sea trout":								
Gray	52,544	2,212	10	1	146	12	50,120	2,058
Spotted					450	25		
Striped bass	71,695	9,053	1,895	203	3,253	363	31,150	3,479
Suckers	800	36	2,215	94				
White perch	67,402	4,087	1,500	112	7,775	334	3,565	176
Whiting							500	25
Yellow perch	27,339	1,612	4,560	307	13,649	889		
Crabs:								
Hard	1,377,500	17,218			2,855,900	35,699	498,700	6,842
Soft	186,920	21,360			253,436	22,696	96,519	8,752
Oysters:								
Market, public, spring	366,626	20,670			592,085	27,327	199,252	9,381
Market, public, fall	770,034	44,097			1,336,375	68,778	441,916	23,948
Market, private, spring							47,915	4,791
Market, private, fall							46,276	4,360
Total	3,396,302	142,949	67,221	4,831	5,162,747	157,735	2,266,415	81,565

Fisheries of Maryland, 1933—Continued

CATCH: BY COUNTIES—Continued

Species	Somerset		Talbot		Wicomico		Worcester	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	423,900	$3,010	2,509,925	$14,307	69,100	$886	32,500	$500
Black bass					25	2		
Bluefish	2,750	212	41,670	3,301	7,100	445	19,500	885
Bonito							9,100	194
Butterfish	10,273	652	500	30	2,200	130	562,500	11,250
Cabio or crab eater							1,100	44
Carp	1,761	53	505	37	1,500	150		
Catfish and bullheads	5,030	252	11,897	462	17,800	1,000	1,000	40
Cod							100	2
Croaker	146,107	3,125	101,160	1,901	32,300	815	760,200	7,710
Dolphin							500	75
Drum:								
Black					12,000	200	30,000	150
Red or redfish	3,500	60					3,500	70
Eels:								
Common	380	22	59,360	3,502	2,600	130	21,000	1,380
Others							250	3
Flounders	18,001	574	2,845	155	7,000	534	18,500	925
Gizzard shad	2,100	63	500	22	3,000	55		
Harvestfish	3,000	180			8,000	480	8,500	170
Hickory shad	1,406	36	3,050	63			1,000	20
King whiting or "kingfish"							9,900	396
Mackerel							27,200	272
Mullet	100	6					20,000	1,200
Pike or pickerel					200	35		
Scup							82,500	1,650
Sea bass							10,100	505
Sea robin							500	25
Shad	155,048	16,266	270,131	24,310	60,103	5,738	17,899	1,629
Spanish mackerel							1,400	70
Spot	500	10	1,600	42	1,500	70	11,500	115
Squeteagues or "sea trout":								
Gray	62,874	2,879	5,795	261	44,000	1,765	581,900	8,823
Spotted	6,313	367	500	50				
Striped bass	7,012	985	22,886	2,165	23,497	2,812	600	78
Sturgeon					160	15	400	80
Suckers			100	5				
Tautog							5,000	150
White perch	9,600	522	13,583	587	13,350	1,034	2,200	220
Yellow perch			4,000	200	150	13		
Crabs:								
Hard	4,417,100	55,213	6,534,000	81,674	31,800	573	450,000	4,594
Soft	1,852,915	111,180	209,152	18,700			2,125	206
Clams, hard, public							41,536	3,894
Oysters:								
Market, public, spring	558,208	34,552	447,129	26,653	47,460	2,768		
Market, public, fall	1,752,769	139,732	867,192	58,489	169,236	9,877		
Market, private, spring	19,020	1,464			71,190	4,153	182,000	26,675
Market, private, fall	105,917	18,417			253,854	14,809	193,736	27,675
Squid							37,500	750
Terrapin, diamond-back	1,800	500						
Total	9,567,417	390,332	11,107,480	236,916	879,125	48,519	3,150,246	102,425

VIRGINIA

Fisheries of Virginia, 1933

OPERATING UNITS: BY GEAR

Item	Purse seines, menhaden	Haul seines	Gill nets		Lines, trot with baits or snoods	Pound nets	Stop nets	Fyke nets	Dip nets	Otter trawls
			Drift	Stake						
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:										
On vessels	1,103									106
On boats and shore:										
Regular		251	76	95	946	1,792	9	79	496	
Casual		260	533	189	135	258	3	73	1,187	
Total	1,103	511	609	284	1,081	2,050	12	152	1,683	106
Vessels:										
Steam	25									
Net tonnage	2,831									
Motor	9									27
Net tonnage	698									389
Total vessels	34									27
Total tonnage	3,529									389
Boats:										
Motor		163	69	115	946	557	6	63	174	
Other		97	336	76	131	630	5	58	1,273	
Accessory boats	102									
Apparatus:										
Number	34	191	410	4,913	1,075	1,880	6	649	1,675	27
Length, yards	10,160	52,063								
Square yards			337,045	266,575			10,300			
Yards at mouth										803
Hooks, baits, or snoods					499,610					

Item	Pots, eel	Scrapes	Dredges			Tongs	Rakes	Picks	By hand	Total, exclusive of duplication
			Crab	Oyster	Scallop					
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:										
On vessels			163	109	4	12				1,471
On boats and shore:										
Regular	6	41	36	208		3,826	342	540	329	7,073
Casual			3			592	20		25	3,071
Total	6	41	202	317	4	4,430	362	540	354	11,615
Vessels:										
Steam										25
Net tonnage										2,831
Motor			52	20	1	4				105
Net tonnage			420	302	18	22				1,761
Sail				3						3
Net tonnage				22						22
Total vessels			52	23	1	4				133
Total tonnage			420	324	18	22				4,614
Boats:										
Motor	2	20	13	125		2,338	92	42	18	4,212
Other	2	21				538	293	440	156	3,621
Accessory boats										102
Apparatus:										
Number	35	41	130	298	2	3,748	362	540		
Yards at mouth		41	235	339	6					

Fisheries of Virginia, 1933—Continued

CATCH: BY GEAR

Species	Purse seines		Haul seines		Gill nets			
					Drift		Stake	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives			59,400	$573	15,205	$256	12,800	$182
Bluefish			59,040	2,358	2,100	105		
Butterfish			1,000	25				
Carp			310,554	12,772	440	9		
Catfish and bullheads			240,510	7,531				
Croaker			712,130	9,663	13,089	124	2,000	40
Drum, red or redfish			13,052	366				
Eels			52,400	1,572				
Flounders			23,730	953				
Gizzard shad			26,240	517	1,740	30	7,340	147
Hickory shad			1,389	37	4,443	135		
Menhaden	115,343,100	$384,227						
Mullet			1,901	79	3,660	98	31,180	1,145
Pigfish			50,740	282				
Pike or pickerel			25	2				
Shad			4,564	451	530,493	39,699	372,755	28,367
Spot			296,120	6,696	33,970	1,017	1,160	35
Squeteagues or "sea trout":								
Gray			173,815	5,462	3,400	170	4,090	178
Spotted			150,720	12,251	3,360	190		
Striped bass			80,880	9,297	41,731	4,341	63,010	7,977
White perch			81,440	3,239	2,750	132		
Yellow perch			20,035	1,000	575	28		
Total	115,343,100	384,227	2,359,685	75,126	656,956	46,334	494,335	38,071

Species	Lines, trot with baits or snoods		Pound nets		Stop nets		Fyke nets	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives			19,071,306	$85,561			18,520	$192
Bluefish			595,160	22,361				
Bonito			10,092	455				
Butterfish			2,220,455	53,148			4,650	134
Cabio or crab eater			18,842	791				
Carp			46,010	1,606	52,263	$1,856	19,197	634
Catfish and bullheads			202,855	6,156	11,241	452	263,802	8,212
Cod			6,525	130				
Croaker			10,881,977	131,247			18,880	328
Drum:								
Black			80,480	1,594				
Red or redfish			34,069	1,018				
Eels			41,180	2,161			8,328	434
Flounders			281,890	19,746			4,000	60
Gizzard shad			60,180	1,322			21,320	383
Harvestfish			160,050	3,585				
Hickory shad			49,255	1,007			1,141	17
King whiting or "kingfish"			29,211	841				
Mackerel			16,056	893				
Menhaden			647,400	1,598				
Mullet			5,595	231			2,205	95
Pigfish			6,430	129				
Pike or pickerel							175	9
Pompano			4,530	248				
Scup			337,540	13,005				
Sea bass			4,980	199				
Shad			3,902,955	370,916			5,947	594
Spanish mackerel			66,501	3,950				
Spot			358,595	9,764				
Squeteagues or "sea trout":								
Gray			11,754,530	211,616			10,760	399
Spotted			9,740	525				
Striped bass			303,151	38,758			30,128	3,101
Sturgeon			4,946	1,112				
Tautog			560	12				
Thimble-eyed mackerel			11,250	169				
White perch			82,069	3,320			81,059	3,134
Yellow perch			5,150	258			46,005	2,313
Crabs, hard	17,047,155	$169,599						
Squid			94,440	2,339				
Turtles, snapper							1,500	60
Total	17,047,155	169,599	51,405,955	991,771	63,504	2,308	537,617	20,099

Fisheries of Virginia, 1933—Continued

CATCH: BY GEAR—Continued

Species	Dip nets		Otter trawls		Pots, eel		Scrapes	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives			217	$2				
Bluefish			28,059	2,205				
Butterfish			59,248	1,896				
Cod			341	7				
Croaker			2,607,106	45,318				
Drum, red or redfish			4,418	72				
Eels			4,050	66	2,676	$114		
Flounders			773,793	31,272				
Haddock			47	1				
Hake			23,455	387				
King whiting or "kingfish"			35,092	1,209				
Mackerel			160	8				
Pigfish			3,595	109				
Pollock			25	1				
Scup			1,168,591	23,319				
Sea bass			327,095	9,193				
Sharks			10,225	159				
Spot			26,820	498				
Squeteagues or "sea trout":								
Gray			363,543	13,156				
Spotted			595	31				
Sturgeon			3,195	484				
Swellfish			1,065	53				
Tautog			488	9				
White perch			102	3				
Crabs:								
Hard	193,100	$1,968					116,550	$1,058
Soft	1,939,257	135,629					128,700	7,722
Lobsters			131	2				
Shrimp			371	20				
Scallops, sea			195	44				
Squid			13,353	288				
Total	2,132,357	137,597	5,455,375	129,812	2,676	114	245,250	8,780

Species	Dredges						Tongs	
	Crab		Oyster		Scallop			
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Crabs, hard	6,554,570	$111,273						
Clams, hard, public							718,522	$152,074
Oysters:								
Market, public, spring			12,102	$672			1,645,547	94,280
Market, public, fall			600	35			2,624,965	147,599
Market, private, spring			1,846,178	142,986			1,608,059	117,311
Market, private, fall			3,184,544	239,613			1,954,013	142,930
Scallops, sea					72,450	$8,050		
Total	6,554,570	111,273	5,043,424	383,036	72,450	8,050	8,551,106	654,194

Species	Rakes		Picks		By hand	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Clams, hard, public	91,160	$22,790	279,864	$69,464	79,720	$19,930
Oysters:						
Market, public, spring	1,200	100			1,200	90
Market, public, fall	5,000	435			1,440	120
Market, private, spring	302,464	26,143				
Market, private, fall	280,460	24,741				
Terrapin, diamond-back					10,240	2,500
Total	680,284	74,209	279,864	69,464	92,600	22,640

Fisheries of Virginia, 1933—Continued

OPERATING UNITS: BY COUNTIES

Item	Accomac	Arlington	Caroline	Charles City	Chesterfield	Dinwiddie	Elizabeth City	Essex	Fairfax
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	19						124		
On boats and shore:									
Regular	1,432	4		10			153	108	34
Casual	89	18	6	98	23	9		24	41
Total	1,540	22	6	108	23	9	277	132	75
Vessels:									
Motor	2						31		
Net tonnage	11						418		
Sail	3								
Net tonnage	22								
Total vessels	5						31		
Total net tonnage	33						418		
Boats:									
Motor	727	10		5			81	42	34
Other	727	2	3	68	14	5	7	49	15
Apparatus:									
Haul seines	13		1	2	2	1		3	4
Length, yards	8,640		300	325	400	200		1,000	840
Gill nets:									
Dr ft		11	2	64	12	4		7	30
Square yards		22,415	1,800	39,040	3,960	2,080		5,600	45,800
Stake	4			110					
Square yards	1,440			3,340					
Lines, trot with baits or snoods	168						9	3	
Baits or snoods	86,600						3,500	1,200	
Pound nets	214						137	2	
Stop nets				2					
Square yards				1,600					
Fyke nets	3	2		19	3				196
Dip nets	364								
Otter trawls							11		
Yards at mouth							330		
Pots, eel				14					
Scrapes	41								
Yards at mouth	41								
Dredges:									
Crab	2						32		
Yards at mouth	3						64		
Oyster	256						14		
Yards at mouth	269						25		
Scallop							2		
Yards at mouth							6		
Tongs	694						43	99	
Rakes	174								
Picks	315								

Item	Gloucester	Henrico	Isle of Wight	James City	King and Queen	King George	King William	Lancaster	Mathews
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	6		3					443	16
On boats and shore:									
Regular	338	3	519	37		72		536	642
Casual	39	65	59	31	51	74	83	417	211
Total	383	68	581	68	51	146	83	1,396	869
Vessels:									
Steam								8	
Net tonnage								820	
Motor	2		1					9	4
Net tonnage	15		5					385	36
Total vessels	2		1					17	4
Total net tonnage	15		5					1,205	36

Fisheries of Virginia, 1933—Continued

OPERATING UNITS: By counties—Continued

Item	Gloucester	Henrico	Isle of Wright	James City	King and Queen	King George	King William	Lancaster	Mathews
Boats:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Motor	218		226	29		61	5	374	356
Other	72	40	73	27	33	39	49	293	306
Accessory boats								42	
Apparatus:									
Purse seines, menhaden								14	
Length, yards								4,240	
Haul seines		3	1	2	1	5	2	1	5
Length, yards		375	200	540	200	1,380	173	800	1,980
Gill nets:									
Drift	4	37		13	31	17	49		6
Square yards	3,200	19,240		7,300	19,600	21,870	29,890		3,100
Stake			1,720	1,024		690			
Square yards			58,480	30,820		70,000			
Lines, trot, with baits or snoods	52		61			16		47	88
Baits or snoods	26,400		33,400			8,500		25,300	46,400
Pound nets	107		7	7		36		182	459
Fyke nets	13		96	43	2	30	6		
Dip nets								290	86
Dredges:									
Crab	4								6
Yards at mouth	8								12
Oyster								6	8
Yards at mouth								9	12
Tongs	186		468	7		12		426	172

Item	Middlesex	Nansemond	New Kent	Norfolk	Northampton	Northumberland	Prince George	Princess Anne
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	4	3		33		670		
On boats and shore:								
Regular	619	141	6	73	503	822	7	72
Casual	286	7	67	58	63	744	24	147
Total	909	151	73	164	566	2,236	31	219
Vessels:								
Steam						17		
Net tonnage						2,011		
Motor	1	1		6		3		
Net tonnage	8	6		112		352		
Total vessels	1	1		6		20		
Total net tonnage	8	6		112		2,363		
Boats:								
Motor	475	56	2	47	209	469	4	81
Other	164		57	71	404	823	17	69
Accessory boats						60		
Apparatus:								
Purse seines, menhaden						20		
Length, yards						5,920		
Haul seines	7		3	5	7		4	81
Length, yards	2,180		800	2,460	2,080		520	16,820
Gill nets:								
Drift			56	16		3	13	
Square yards			44,800	3,200		2,940	9,860	
Stake		189		210	4			
Square yards		5,670		6,300	2,080			
Lines, trot, with baits or snoods	49			50	113	204		32
Baits or snoods	32,600			25,500	5,600	105,760		9,600
Pound nets	14			28	120	411		6
Stop nets							4	
Square yards							8,700	
Fyke nets		2	15		3	4	79	
Dip nets	148				46	741		
Otter trawls				2				
Yards at mouth				60				
Pots, eel			21					
Dredges:								
Oyster	2			10				
Yards at mouth	3			17				
Tongs	539	104		56	190	135		34
Rakes					188			
Picks					225			

Fisheries of Virginia, 1933—Continued

OPERATING UNITS: BY COUNTIES—Continued

Item	Prince William	Richmond	Spotsylvania	Stafford	Surry	Warwick	Westmoreland	York
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels						16		134
On boats and shore:								
Regular	24	121		62	14	226	257	238
Casual	40	67	2	34	29	43	118	4
Total	64	188	2	96	43	285	375	376
Vessels:								
Motor						4		41
Net tonnage						53		360
Boats:								
Motor	35	48		43	14	149	249	163
Other	5	74	1	16	14	6	60	18
Apparatus:								
Haul seines	5		1	12	3		3	14
Length, yards	380		300	1,180	780		410	6,800
Gill nets:								
Drift	13	16	1	2			1	2
Square yards	23,490	17,400	500	7,000			1,100	1,860
Stake	44			112	672	112	10	12
Square yards	20,145			42,900	20,160	4,480	400	360
Lines, trot, with baits or snoods	2	9		7			119	46
Baits or snoods	1,000	3,850		3,500			58,400	22,500
Pound nets		24		14		10	73	29
Fyke nets	64	1		35	21	3	3	6
Otter trawls						4		10
Yards at mouth						117		296
Dredges:								
Crab								86
Yards at mouth								148
Oyster								2
Yards at mouth								4
Tongs		95				219	148	121

CATCH: BY COUNTIES

Species	Accomac		Arlington		Caroline		Charles City	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	770,060	$3,850			1,000	$18	21,700	$217
Bluefish	64,350	3,088						
Bonito	6,252	301						
Butterfish	581,560	14,559						
Carp					1,500	42	23,677	725
Catfish and bullheads	780	31	830	$33	900	27	32,197	1,452
Cod	1,800	36						
Croaker	1,323,147	20,252						
Drum:								
Black	80,480	1,594						
Red or redfish	25,559	574						
Eels	32,040	1,615					2,196	85
Flounders	54,400	2,176						
Gizzard shad					800	20	3,500	35
Harvestfish	8,060	98						
Hickory shad					200	8		
King whiting or "kingfish"	1,875	75						
Mackerel	5,826	381						
Mullet	4,640	232			500	15		
Scup	105,620	3,774						
Shad	185,827	17,115	69,188	3,731	900	135	66,657	6,820
Spanish mackerel	4,545	266						
Spot	32,295	896						
Squeteagues or "sea trout":								
Gray	1,517,950	37,292						
Spotted	2,640	137						
Striped bass	8,540	864			200	20	2,688	338
Sturgeon	2,600	521						
Thimble-eyed mackerel	11,250	169						
White perch	560	16	225	10	1,000	50	1,454	64
Yellow perch			245	12	700	35	75	7
Crabs:								
Hard	2,648,590	27,232						
Soft	932,429	49,254						
Clams, hard, public	606,518	126,852						
Oysters:								
Market, public, spring	122,174	7,749						
Market, public, fall	197,444	13,721						
Market, private, spring	952,140	92,016						
Market, private, fall	1,095,240	103,617						
Squid	55,500	1,560						
Terrapin, diamond-back	10,240	2,500						
Total	11,452,931	534,413	70,488	3,786	7,700	370	154,144	9,743

Fisheries of Virginia, 1933—Continued

CATCH: BY COUNTIES—Continued

Species	Chesterfield		Dinwiddie		Elizabeth City		Essex	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	5,370	$65	4,650	$46	118,047	$621	4,800	$76
Bluefish					65,369	3,268		
Butterfish					126,160	3,476		
Carp	3,600	99	2,800	112			7,000	340
Catfish and bullheads	680	22					11,500	450
Cod					138	3		
Croaker					2,966,978	45,474	7,500	155
Drum, red or redfish					4,188	67		
Eels					3,768	62		
Flounders					457,554	18,603		
Gizzard shad					1,200	18	14,500	310
Haddock					47	1		
Hake					20,524	326		
Harvestfish					8,460	212		
Hickory shad	615	15	250	5	14,100	282	1,050	29
King whiting or "kingfish"					21,602	736		
Mackerel					150	7		
Mullet	35	2			3,000	116	800	36
Pigfish					2,813	95		
Pollock					25	1		
Scup					605,291	12,112		
Sea bass					239,992	7,017		
Shad	3,115	321	480	48	191,900	19,190	5,800	545
Sharks					8,866	119		
Spanish mackerel					1,350	54		
Spot					80,999	2,257		
Squeteagues or "sea trout":								
Gray					643,911	13,282		
Spotted					595	31		
Striped bass	310	20	1,240	136	41,500	4,150	4,700	530
Sturgeon					2,879	450		
Swellfish					491	25		
Tautog					891	19		
White perch					102	3	1,600	80
Yellow perch							800	40
Crabs, hard					2,533,750	44,196	32,760	312
Lobsters					131	2		
Shrimp					172	9		
Clams, hard, public					63,120	15,780		
Oysters:								
Market, public, spring					19,200	1,280	115,577	5,779
Market, public, fall					43,200	2,880	144,227	7,211
Market, private, spring					336,519	24,037	74,718	4,260
Market, private, fall					1,050,090	74,974	53,207	3,040
Scallops, sea					72,645	8,094		
Squid					12,534	267		
Total	13,725	544	9,420	347	9,764,251	303,596	480,539	23,193

Species	Fairfax		Gloucester		Henrico		Isle of Wight	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives			18,200	$114	1,355	$11	10,300	$206
Bluefish			105,735	4,229				
Butterfish			295,980	5,919			5,150	154
Cabio or crab eater			820	49				
Carp	7,620	$229			34,730	1,106	12,580	377
Catfish and bullheads	106,290	3,178	1,040	21	5,235	178	19,600	588
Croaker			1,633,960	24,514			60,500	1,210
Eels			370	18			2,000	50
Flounders			16,540	661				
Gizzard shad	480	10					26,460	530
Harvestfish			62,400	1,248				
Hickory shad			958	19				
King whiting or "kingfish"			19,561	391				
Menhaden			70,000	226				
Mullet							9,000	450
Shad	205,366	12,516	172,940	17,294	9,508	1,152	52,720	6,527
Spanish mackerel			1,496	150				
Spot			36,680	1,100				
Squeteagues or "sea trout":								
Gray			1,472,240	18,404			8,500	425
Spotted			940	51				
Striped bass	26,830	1,945	427	47	615	73	9,270	943
White perch	32,830	1,249	260	10	100	5	12,300	461
Yellow perch	23,190	1,159	540	27	75	3		
Crabs, hard			1,855,500	19,110			160,800	1,340
Clams, hard, public			166,400	39,200			9,600	2,400
Oysters:								
Market, public, spring			104,340	7,350			235,440	15,706
Market, public, fall			177,400	12,560			255,120	17,008
Market, private, spring							34,800	2,900
Market, private, fall							49,200	4,100
Total	402,606	20,286	6,214,727	152,712	51,618	2,528	973,340	55,375

Fisheries of Virginia, 1933—Continued

CATCH: BY COUNTIES—Continued

Species	James City		King and Queen		King George		King William	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	7,400	$74	1,440	$28	142,000	$770	17,540	$137
Bluefish	150	8						
Butterfish					2,500	55		
Carp	20,740	709			12,440	429	20	1
Catfish and bullheads	20,330	519	840	25	185,550	4,766	456	23
Croaker	11,880	185			1,700	37		
Gizzard shad	23,880	478			4,400	93		
Hickory shad			480	15	2,500	83	620	6
Mullet			1,560	42	1,550	72	236	6
Pike or pickerel							25	2
Shad	32,860	3,286	10,148	1,066	125,454	9,872	15,936	1,342
Squeteagues or "sea trout", gray	1,000	30			9,520	286		
Striped bass	21,570	2,167	530	56	106,180	15,811	89	9
White perch	14,640	595	340	16	56,475	2,306	130	4
Yellow perch	950	38			3,890	213	100	4
Crabs, hard					192,000	3,200		
Clams, hard, public	1,000	175						
Oysters:								
Market, public, spring					8,680	620		
Market, private, spring					10,640	760		
Market, private, fall					14,400	1,050		
Total	156,400	8,264	15,338	1,248	879,879	40,423	35,152	1,534

Species	Lancaster		Mathews		Middlesex		Nansemond	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	1,711,400	$8,564	488,500	$2,441	30,000	$170		
Bluefish	89,020	4,126	205,710	6,306	7,860	460		
Butterfish			472,319	11,812				
Cabio or crab eater			15,910	636				
Carp					37,840	915		
Catfish and bullheads					2,000	60		
Croaker	502,720	5,327	3,492,100	34,921	135,635	1,472	2,640	$48
Flounders	27,580	1,134	53,900	10,528	500	20		
Gizzard shad	480	24					780	9
Harvestfish			10,830	270				
Menhaden	44,840,200	149,071	92,000	220				
Pigfish			6,430	129				
Shad	409,430	40,943	1,035,293	93,175	8,970	897	3,420	342
Spanish mackerel			13,460	673				
Spot	31,920	791	172,610	4,284	41,540	1,009		
Squeteagues or "sea trout":								
Gray	569,970	11,399	3,177,660	39,788	42,100	1,047		
Spotted	10,800	5,024	30,800	1,562				
Striped bass	12,940	5,675	26,230	2,555	13,390	1,339		
Sturgeon			918	367				
White perch			4,590	138	1,160	58	980	39
Crabs:								
Hard	633,000	3,165	1,223,520	11,802	764,520	6,370		
Soft	174,600	23,200	35,520	1,954	356,200	28,496		
Clams, hard, public			23,120	5,460			70,400	17,600
Oysters:								
Market, public, spring	413,241	20,662	22,303	1,312	188,657	9,433	120,000	7,960
Market, public, fall	716,285	33,814	48,036	3,049	448,910	22,445	177,300	11,745
Market, private, spring	305,256	17,003	182,541	13,602	121,664	7,580	144,000	12,000
Market, private, fall	489,867	28,942	193,686	14,615	188,963	13,448	162,000	13,500
Total	50,938,709	358,864	11,027,986	261,599	2,390,909	95,219	681,520	63,243

Species	New Kent		Norfolk		Northampton		Northumberland	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	5,000	$50	133,000	$665	43,200	$218	12,675,246	$57,682
Bluefish			7,992	406	27,250	1,200	63,025	2,206
Bonito					3,840	154		
Butterfish			206,871	4,185	410,200	10,254	22,796	671
Cabio or crab eater							2,112	106
Carp	4,350	174						
Catfish and bullheads	13,750	354						
Cod			115	2	4,725	94		
Croaker			349,022	3,569	747,520	12,837	1,604,955	16,041
Drum, red or redfish			1,340	53	7,392	278	2,640	106
Eels	580	35	282	4	10,130	655	1,800	128
Flounders			91,370	3,472	51,470	2,059	29,290	1,071

Fisheries of Virginia, 1933—Continued

CATCH: BY COUNTIES—Continued

Species	New Kent		Norfolk		Northampton		Northumberland	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Gizzard shad	7,040	$145						
Hake			1,484	$28				
Harvestfish			62,500	1,562				
Hickory shad							19,425	$399
King whiting or "kingfish"			4,814	260	3,845	$154	350	11
Mackerel					6,810	341		
Menhaden							70,988,300	236,308
Mullet	250	5	9,750	196	6,680	267		
Pigfish			1,140	34				
Pike or pickerel	175	9						
Pompano			2,240	134			2,290	114
Scup			65,470	1,331	224,660	9,086		
Sea bass			28,741	540	4,980	199		
Shad	28,582	3,042	71,160	7,203	27,760	2,776	1,510,240	145,999
Sharks			763	23				
Spanish mackerel			24,890	1,990	13,040	573		
Spot			87,080	2,319	29,450	884	26,360	591
Squeteagues or "sea trout":								
Gray			113,321	2,426	3,621,010	80,440	371,460	8,961
Spotted			7,900	395	16,000	1,060	1,290	60
Striped bass	3,000	300	3,670	367	900	108	66,730	6,673
Sturgeon			1,453	228				
Swellfish			259	13				
White perch	2,740	118			4,914	147		
Yellow perch	1,400	70						
Crabs:								
Hard			1,452,000	11,650	816,000	10,375	3,681,355	29,247
Soft					150,000	12,500	419,208	27,947
Shrimp			125	7				
Clams, hard, public			16,000	4,000	139,636	34,422		
Oysters:								
Market, public, spring					1,200	100	3,900	200
Market, public, fall					10,476	873	39,700	2,430
Market, private, spring			689,164	49,226	262,892	20,241	139,790	9,668
Market, private, fall			1,103,907	78,850	142,240	11,854	240,800	16,280
Squid			257	6	38,940	779		
Turtles, snapper	1,500	60						
Total	68,367	4,362	4,538,080	175,144	6,827,160	214,928	91,912,972	562,899

Species	Prince George		Princess Anne		Prince William		Richmond		Spotsylvania	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	6,050	$80	21,000	$105	15,470	$232	46,750	$907		
Bluefish			7,100	355						
Butterfish			135,380	3,385			1,400	43		
Carp	38,417	1,569	125,600	6,280	20,800	1,042	15,550	498	500	$15
Catfish and bullheads	50,795	1,759	2,800	84	43,300	1,299	68,100	2,889	1,000	40
Croaker			159,000	1,590			20,500	485		
Drum, red or redfish			9,930	365						
Eels	1,548	72	52,400	1,572			700	35		
Flounders			3,400	160						
Gizzard shad							23,500	585	1,000	30
Harvestfish			7,800	195						
Hickory shad	300	8					300	15	100	5
Mackerel			3,420	171						
Mullet	275	15					75	3		
Shad	8,530	880	17,800	1,798	126,426	8,393	23,050	3,035	300	15
Spanish mackerel			7,300	219						
Spot			34,900	896						
Squeteagues or "sea trout":										
Gray			258,600	3,233			4,600	276		
Spotted			24,600	1,230						
Striped bass	860	87			23,400	2,340	8,500	1,250	100	15
White perch	900	35	8,300	415	17,340	566	15,850	793	500	25
Yellow perch	400	16			13,800	690	2,050	103	500	25
Crabs, hard			813,100	7,400	13,200	124	51,480	936		
Clams, hard, public			2,632	659						
Oysters:										
Market, public, spring							115,577	5,779		
Market, public, fall							144,227	7,211		
Market, private, spring			10,360	2,220			74,725	4,261		
Market, private, fall			14,140	3,030			53,207	3,040		
Total	108,075	4,521	1,719,562	35,362	273,736	14,686	670,141	32,144	4,000	170

Fisheries of Virginia, 1933—Continued

CATCH: BY COUNTIES—Continued

Species	Stafford		Surry		Warwick		Westmoreland		York	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives			7,000	$58	8,070	$73	2,846,200	$9,204	16,700	$84
Bluefish					731	58			40,067	1,319
Butterfish					13,340	360			11,697	330
Carp	28,160	$1,126	21,900	657			8,640	432		
Catfish and bullheads	94,990	2,850	19,520	585			29,925	998	6,000	120
Cod					36	1			52	1
Croaker			4,010	60	455,524	7,734	102,870	1,286	652,021	9,523
Drum, red or redfish					200	4			290	9
Eels			820	16						
Flounders					81,237	3,184			216,172	8,963
Gizzard shad			8,800	112						
Hake					245	5			1,202	28
Hickory shad							15,330	307		
King whiting or "kingfish"					5,127	141			7,129	282
Mackerel					10	1				
Mullet					900	32			5,290	159
Pigfish					887	12			49,695	250
Scup					265,433	5,271			239,657	4,750
Sea bass					17,015	452			41,347	1,184
Shad	163,644	10,705	7,710	771	5,170	517	178,080	14,334	42,350	4,242
Sharks					396	11			200	6
Spanish mackerel									420	25
Spot					9,229	202			133,602	2,781
Squeteagues or "sea trout":										
Gray					108,226	3,141	211,920	5,298	178,150	5,253
Spotted									68,940	3,447
Striped bass	20,060	2,342	7,810	781	8,420	842	93,563	11,227	4,638	464
Sturgeon					263	27			28	3
Swellfish									315	15
Tautog					157	2				
White perch	35,855	1,434	6,980	216	3,800	115	21,495	860		
Yellow perch	22,450	1,127							600	30
Crabs, hard	92,400	840					1,038,400	13,464	5,909,000	93,135
Shrimp									74	4
Clams, hard, public									70,840	17,710
Oysters:										
Market, public, spring					69,780	4,652	24,700	1,270	95,280	5,290
Market, public, fall					110,520	7,368	7,800	400	111,360	5,474
Market, private, spring					16,752	838	149,940	8,568	250,800	17,260
Market, private, fall					7,200	360	236,470	14,084	324,400	22,500
Squid					370	10			192	5
Total	457,559	20,424	84,550	3,256	1,188,838	35,413	4,965,333	81,732	8,478,508	204,646

SEED OYSTER FISHERY: BY GEAR

Item	Tongs		Rakes		By hand		Total, exclusive of duplication	
OPERATING UNITS								
Fishermen, on boats and shore:	*Number*		*Number*		*Number*		*Number*	
Regular	1,562		130		178		1,650	
Casual	67						67	
Total	1,629		130		178		1,717	
Boats:								
Motor	802				2		804	
Other	226		130		80		286	
Apparatus: Number	1,474		130					
CATCH								
Oysters:	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*	*Bushels*	*Value*
Seed, public, spring	559,920	$57,940			14,700	$2,940	574,620	$60,880
Seed, public, fall	781,140	79,114			34,100	6,820	815,240	85,934
Seed, private, spring	7,300	1,760	21,000	$4,200	7,300	1,760	35,600	7,720
Seed, private, fall	12,400	2,480	41,400	8,280	3,000	600	56,800	11,360
Total	1,360,760	141,294	62,400	12,480	59,100	12,120	1,482,260	165,894

Fisheries of Virginia, 1933—Continued

SEED OYSTER FISHERY: By COUNTIES

Item	Accomac		Elizabeth City		Gloucester		Isle of Wight	
OPERATING UNITS								
Fishermen, on boats and shore: Regular	Number 140		Number 43		Number 182		Number 512	
Boats:								
Motor	50		24		128		222	
Other	20						26	
Apparatus: Tongs	92		33		144		466	
CATCH								
Oysters:	Bushels	Value	Bushels	Value	Bushels	Value	Bushels	Value
Seed, public, spring	25,400	$5,080	12,100	$1,210	10,500	$1,050	256,600	$25,660
Seed, public, fall	40,600	8,120	21,300	2,130	31,700	3,170	326,400	32,640
Total	66,000	13,200	33,400	3,340	42,200	4,220	583,000	58,300

Item	James City		Mathew		Middlesex		Nansemond		New Kent	
OPERATING UNITS										
Fishermen, on boats and shore:										
Regular	Number 9		Number 48		Number 54		Number 108		Number	
Casual									4	
Boats: Motor	5		32		54		51		2	
Apparatus: Tongs	7		48		54		87		4	
CATCH										
Oysters:	Bushels	Value	Bushels	Value	Bushels	Value	Bushels	Value	Bushels	Value
Seed, public, spring	3,700	$370	6,400	$640	5,480	$1,096	34,400	$3,440	900	$90
Seed, public, fall	7,800	780	14,600	1,460			31,800	3,180	2,900	290
Total	11,500	1,150	21,000	2,100	5,480	1,096	66,200	6,620	3,800	380

Item	Norfolk		Northampton		Warwick		York	
OPERATING UNITS								
Fishermen, on boats and shore:								
Regular	Number 51		Number 180		Number 215		Number 108	
Casual	28				35			
Total	79		180		250		108	
Boats:								
Motor	19				143		74	
Other	60		180					
Apparatus:								
Tongs	79		140		219		101	
Rakes			130					
CATCH								
Oysters:	Bushels	Value	Bushels	Value	Bushels	Value	Bushels	Value
Seed, public, spring	21,740	$2,174	3,300	$660	166,800	$16,680	27,300	$2,730
Seed, public, fall	65,340	6,534	3,500	700	211,900	21,190	57,400	5,740
Seed, private, spring			35,600	7,720				
Seed, private, fall			56,800	11,360				
Total	87,080	8,708	99,200	20,440	378,700	37,870	84,700	8,470

NOTE.—Of the total number of persons fishing for seed oysters, 1,636 are duplicated among those fishing for market oysters or other species. Similarly, the following craft and gear are duplicated: 744 motorboats, 267 other boats, and 1,161 tongs.

WINTER TRAWL FISHERY OFF NEW JERSEY, MARYLAND, VIRGINIA, AND NORTH CAROLINA

The catch in the winter trawl fishery off the coasts of southern New Jersey, Maryland, Virginia, and North Carolina (excluding the shrimp fishery) in 1933 amounted to 18,789,969 pounds of fishery products, valued at $506,513 to the fishermen. Craft whose home port was in Massachusetts accounted for 57 percent of the total volume and 56 percent of the value, while Virginia craft accounted for 29 percent of the volume and 26 percent of the value. The principal species contributing to the catch were croaker, sea bass, flounders, and scup.

Statistics of the winter trawl fishery are included also in the catch data for the various States published elsewhere in this report.

Winter trawl fishery off New Jersey, Maryland, Virginia, and North Carolina, 1933

CATCH: BY STATES [1]

Species	Massachusetts		Connecticut		New York		New Jersey	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bluefish	4,974	$360	113	$9	292	$19	3,434	$199
Butterfish	70,871	2,637	87	3	17,802	634	22,800	695
Cod	8,398	291			150	2	12,090	233
Croaker	2,490,145	35,696	2,738	46	76,305	1,357	367,623	7,125
Cunners	152	2						
Drum:								
Black	32	1	100	1	447	9		
Red	1,755	32					555	9
Eels, conger	38,020	703	190	4	3,260	57	4,704	126
Flounders	2,147,253	82,289	87,969	3,827	523,966	22,355	628,634	26,622
Grayfish	2,932	36						
Haddock	299	4						
Hake	89,935	1,372	275	5	14,526	203	9,204	149
King whiting or "kingfish"	25,296	645	451	12	2,611	90	6,942	274
Mackerel	395	6			150	6	37	1
Mullet							267	8
Pigfish	3,832	73					151	4
Pollock	660	10						
Scup or porgy	1,645,178	37,422	16,587	536	249,466	5,719	248,156	6,209
Sea bass	3,701,867	108,239	2,270	142	114,522	4,551	102,439	3,943
Shad	28	2						
Sheepshead	9	1					9	1
Skates	108	2			725	7		
Spot	31,758	346	50	1	816	23	1,126	22
Squeteagues or "sea trout":								
Gray	286,547	8,543	320	17	13,741	600	32,715	1,065
Spotted							30	2
Striped bass	17	1			11	1		
Sturgeon	2,950	371	44	5	365	33	641	47
Tautog	688	20			60	1	149	3
Whiting	590	7			900	9		
Crabs, hard							60	1
Lobsters	1,588	130	163	20	1,421	127	1,105	121
Shrimp	40,900	2,045			12	1	841	123
Scallops, sea	156	35			297	47	170	42
Squid	22,170	489	480	13	2,446	77	3,370	85
Total	10,619,503	281,810	111,837	4,641	1,024,291	35,928	1,447,252	47,109

[1] The data as shown for the various States represent the catch of craft whose principal fishing ports are in such States.

Winter trawl fishery off New Jersey, Maryland, Virginia, and North Carolina, 1933—Continued

CATCH: BY STATES—Continued

Species	Virginia		Georgia		Florida		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	217	$2					217	$2
Bluefish	28,059	2,205			153	$10	37,025	2,802
Butterfish	52,601	1,536			393	12	164,554	5,517
Cod	315	6					20,953	532
Croaker	2,607,106	45,318			73,267	1,029	5,617,184	90,571
Cunners							152	2
Drum:								
Black							579	11
Red	4,418	72	20	$1	180	6	6,928	120
Eels, conger	1,175	16					47,349	906
Flounders	676,579	27,014			79,137	2,852	4,143,538	164,959
Grayfish							2,932	36
Haddock	47	1					346	5
Hake	19,060	311			15	1	133,015	2,041
King whiting or "kingfish"	34,747	1,188			137	4	70,184	2,213
Mackerel	120	6					702	19
Mullet							267	8
Pigfish	3,300	65			45	1	7,328	143
Pollock							660	10
Scup or porgy	1,148,135	22,756			33,768	322	3,341,290	72,964
Sea bass	303,539	8,628			11,430	505	4,236,067	126,008
Shad							28	2
Sharks	10,225	159	955	28			11,180	187
Sheepshead							18	2
Skates							833	9
Spot	26,552	492			536	10	60,838	894
Squeteagues or "sea trout":								
Gray	361,235	13,094			17,076	404	711,634	23,723
Spotted	595	31					625	33
Striped bass							28	2
Sturgeon	3,195	484			187	16	7,382	956
Shellfish	1,065	53	39	2			1,104	55
Tautog	488	9			83	1	1,468	34
White perch	102	3					102	3
Whiting							1,490	16
Crabs, hard							60	1
Lobsters	131	2					4,408	400
Shrimp	371	20					42,124	2,189
Scallops, sea	72,450	8,050					73,073	8,174
Squid	13,353	288	65	1	420	11	42,304	964
Total	5,369,180	131,809	1,079	32	216,827	5,184	18,789,969	506,513

SHAD AND ALEWIFE FISHERIES OF THE POTOMAC RIVER

The catch of shad in the Potomac River in 1933 amounted to 611,425 in number, 1,837,623 pounds in weight, and their total value to the fishermen was $149,114. The catch of alewives for the same season amounted to 17,238,850 in number, with a total weight of 6,895,540 pounds, and a value to the fishermen of $23,845. These figures show a decrease of 19 percent in the weight and 14 percent in the value of shad as compared with 1932, and an increase of 1 percent in the weight but a decrease of 1 percent in the value of alewives.

About 57 percent of the shad, in weight, were taken with pound nets, and 43 percent, with gill nets. Less than one-half of 1 percent were taken with haul seines. More than 99½ percent of alewives were taken with pound nets, only small quantities being taken with gill nets, haul seines, and fyke nets.

Statistics of the catch of shad and alewives in the Potomac River are included also in the catch data for Maryland and Virginia which are published elsewhere in this report.

Shad and alewife fisheries of the Potomac River, 1933

Item	Maryland			Virginia			Total		
Fishermen on boats and shore:	*Number*	*Pounds*	*Value*	*Number*	*Pounds*	*Value*	*Number*	*Pounds*	*Value*
Regular	49			322			371		
Casual	119			161			280		
Total	168			483			651		
Boats:									
Motor	58			183			241		
Other	50			97			147		
Apparatus:									
Pound nets	67			300			367		
Gill nets	1,251			885			2,136		
Square yards	236,557			230,790			467,347		
Haul seines	1						1		
Length, yards	200						200		
Fyke nets				3			3		
Shad caught:									
With pound nets	17,714	60,833	$6,237	342,971	990,532	$90,705	360,685	1,051,365	$96,942
With gill nets	33,260	114,932	9,222	217,417	671,126	42,927	250,677	786,058	52,149
With haul seines	63	200	23				63	200	23
Total	51,037	175,965	15,482	560,388	1,661,658	133,632	611,425	1,837,623	149,114
Alewives caught:									
With pound nets	1,209,060	483,624	2,277	15,961,865	6,384,746	21,207	17,170,925	6,868,370	23,484
With gill nets	10,500	4,200	60	48,675	19,470	282	59,175	23,670	342
With haul seines	1,250	500	10				1,250	500	10
With fyke nets				7,500	3,000	9	7,500	3,000	9
Total	1,220,810	488,324	2,347	16,018,040	6,407,216	21,498	17,238,850	6,895,540	23,845

TRADE IN FISHERY PRODUCTS IN WASHINGTON, D. C.[9]

The municipal fish wharf and market in Washington, D. C., is located in the southwestern part of the city on an arm of the Potomac River. At the present time 17 firms have stalls in the market, 2 firms are in private buildings across the street, and 4 firms have stalls in the new Center Market. Altogether the 23 above firms employed 111 persons who received $79,186 in salaries and wages during 1933. Of the total employees 95 were regularly employed. These firms conduct a wholesale and retail business, chiefly wholesale, however.

During the year 1933 the receipts of fresh and frozen fishery products as received at the municipal fish wharf amounted to 9,572,135 pounds. This is a decrease of 16 percent as compared with the year 1932 but an increase of 2 percent as compared with the 5-year average.

During 1933 three firms in Washington, D. C., smoked fishery products which amounted to 257,825 pounds, valued at $27,806. Of this amount 230,000 pounds, valued at $20,880, consisted of herring smoked as bloaters; 24,400 pounds, valued at $6,292, were whitefish; while the remainder or 3,425 pounds, valued at $634, consisted of alewives or "river herring", eels, and haddock.

There were three firms which shucked oysters mostly for hotel and restaurant trade. Their production amounted to 6,100 gallons, valued at $9,600. In addition to this quantity there were 42,245 gallons of oysters, valued at $78,160, shucked mostly by fishermen for retail trade. Virtually all of the fishery products were consumed in the city.

[9] Statistics of fishery products handled at the municipal wharf, Washington, D. C., are reported to the Bureau by agents of the Health Department, District of Columbia.

Fishery products received at municipal fish wharf and market, Washington, D. C., 1933

Species	January	February	March	April	May	June	July	August	September	October	November	December	Total
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Alewives (river herring)	6,700	18,000	73,400	318,800	142,700								559,600
Bluefish	1,500	4,200	6,200	6,300	43,800	30,600	15,900	21,600	26,200	34,100	12,800	5,600	208,800
Butterfish	2,700	2,600	2,300	6,400	31,900	75,500	35,200	55,300	26,200	36,900	15,400	2,900	293,300
Carp	11,500	6,300	10,700	21,600	15,600	5,800	4,100	1,300	6,600	5,100	5,500	6,400	100,500
Catfish	2,300	8,400	21,700	26,600	8,500	5,100	2,300	300	4,800	12,700	11,000	2,600	106,300
Cod	1,000	1,200	600	1,100	700	200		400	500	800	600	800	7,900
Croaker	103,600	101,400	58,500	280,000	269,100	233,000	284,000	306,800	116,600	149,000	181,400	172,200	2,255,600
Drum, red or redfish	9,000		1,400	6,000	680	110	500		2,800	4,400	4,900	2,900	32,690
Eels	600		600	3,800	400	100			1,100	1,400	1,800	200	10,000
Flounders	53,500	44,400	42,100	26,800	31,700	36,000	19,400	20,400	8,500	20,100	33,500	24,300	360,700
Gizzard shad	24,500	7,500	22,200	5,100					200	2,300	1,500	300	63,600
Haddock	28,525	33,310	27,490	38,105	32,970	25,120	16,230	30,560	21,520	21,330	31,720	20,180	327,060
Hake	1,700	1,200									400	200	3,500
Halibut	6,900	5,900	9,600	6,800	5,400	3,300	4,500	4,400	5,200	7,200	5,600	4,000	63,800
Hickory shad or "jacks"	5,300	2,300	2,300	1,300	200								11,400
Hogfish								200	200	3,300	300		4,000
Kingfish or "king mackerel"	1,400	1,400	600	17,800		200		600			1,900	1,700	25,600
Mackerel	33,100	28,000	18,400	16,600	16,700	25,200	12,600	22,200	18,400	20,600	16,700	21,400	249,900
Menhaden											200		200
Mullet	5,400	2,100	700	3,000				800	5,300	7,600	8,700	4,000	37,600
Perch	4,700	6,800	24,700	30,900	4,400	800	900	900	2,100	6,300	5,900	5,800	94,200
Pike or pickerel	800			1,500	600						700	600	4,200
Pollock	200					100	400	200			400	9,200	10,500
Pompano	200	100	800	200	600	200	700	1,300	300	200	300	100	5,000
Salmon	4,800	2,500	3,000	1,200	1,200	1,200	3,000	3,200	5,000	8,300	7,900	3,100	44,400
Scup of porgy	8,200	23,000	20,400	8,800	11,500	10,700		1,600	2,800	2,300	1,700	200	91,200
Sea bass	70,400	82,500	119,600	30,800	7,500	19,000	7,400	7,700	2,500	4,300	4,700	7,500	363,900
Shad	22,200	26,165	70,700	194,200	244,100	15,600					900		573,865
Sheepshead											100		100
Smelt	2,580	3,540	2,220	1,275						15	180	1,020	10,830
Snapper, red	1,600	300	400	650	450	300	200	300	300	200	300	600	5,000
Spot	1,100	200			6,200	16,300	35,200	26,200	27,900	42,000	14,400	500	170,000
Squeteagues or "sea trout"	95,900	66,000	100,100	83,800	287,300	232,700	108,300	178,600	226,500	279,800	128,800	106,100	1,893,900
Striped bass	8,500	5,900	27,100	33,220	11,200	2,600	900	1,100	4,900	23,700	23,300	7,100	149,520
Sturgeon	200			100	500					50	200	295	1,345
Swordfish						100	350	600	507	585	452	125	2,719
Tilefish	200			100							200	100	600
Whitefish		300		200									500
Whiting	600										800	500	1,900
Yellowtail	2,000			200						600			2,800

Crabs:													
Hard	----------	----------	150	3,375	24,750	58,500	62,025	38,925	32,175	4,500	450	----------	224,850
Soft	----------	----------	2,250	4,455	19,800	31,590	10,485	18,135	23,085	12,015	990	----------	122,805
Oyster	----------	25	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	25
Meat	4,240	3,180	5,485	15,355	29,640	29,205	22,950	28,770	18,925	16,605	12,330	3,805	190,490
Sea crawfish or "spiny lobster":													
Alive	100	50	----------	50	----------	----------	----------	----------	----------	75	200	50	525
Meat	----------	60	25	----------	----------	----------	----------	----------	----------	----------	----------	----------	85
Lobsters:													
Alive	1,080	800	720	1,240	2,920	1,410	440	750	750	950	910	600	12,570
Meat	105	145	120	50	145	80	50	155	80	190	190	220	1,530
Shrimp	5,650	5,400	5,100	7,250	9,600	11,475	9,385	21,515	12,268	13,362	8,085	6,050	115,140
Squid	1,400	----------	700	----------	----------	----------	----------	----------	100	100	300	100	2,700
Clams:													
Hard	6,112	6,080	8,960	5,664	8,032	7,776	5,376	5,888	6,016	8,256	5,088	4,512	[1] 77,760
Soft	16	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	16
Oysters:													
In the shell (meat)	50,645	31,794	27,622	9,807	574	----------	----------	70	8,498	30,611	35,140	23,408	[2] 218,169
Opened (meat)	66,132	64,286	55,099	18,682	656	----------	----------	----------	17,859	58,739	75,504	66,062	[3] 423,019
Scallops	1,072	1,552	1,160	1,952	2,128	3,672	920	2,384	2,904	5,160	2,416	1,016	26,336
Frogs	----------	----------	----------	183	18	100	13	----------	63	60	48	15	500
Terrapin	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	82	----------	82
Turtles:													
Sea	----------	----------	----------	----------	180	----------	----------	----------	----------	----------	----------	----------	180
Snapper	1,528	140	----------	128	28	----------	----------	----------	----------	----------	----------	----------	1,824
Total	660,885	599,027	775,201	1,241,441	1,274,371	883,638	663,724	803,152	639,665	845,788	666,885	518,358	9,572,135

[1] 9,720 bushels.
[2] 31,167 bushels.
[3] 48,345 gallons.

NOTE.—Hard clams have been converted to pounds on the basis of 8 pounds of meats to the bushel, and oysters on the basis of 7 pounds of meats to the bushel, and 8¾ pound to the gallon.

FISHERIES OF THE SOUTH ATLANTIC AND GULF STATES

(South Atlantic, Area XXIV; Gulf, Area XXV) [1]

The most recent complete catch statistics for the fisheries of the South Atlantic and Gulf States are those collected for the year 1932 and the most recent complete statistics on fisheries wholesale and manufacturing industries in the same region are for 1931. The yield of the commercial fisheries in the marine areas of these States, comprised of North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas, during 1932, amounted to 299,916,728 pounds, valued at $6,428,385, to the fishermen, representing an increase of 4 percent in volume but a decrease of 20 percent in value as compared with the catch in 1931. Detailed statistics of the operating units and catch of these fisheries for 1932 appear in "Fishery Industries of the United States, 1933", Appendix I to the Report of the Commissioner of Fisheries for the fiscal year 1934, while data on wholesale and manufacturing industries for 1931 are published in "Fishery Industries of the United States, 1932", Appendix III to the Report of the Commissioner of Fisheries for the fiscal year 1933. A summary of these fisheries appears in the following tables.

Fisheries of the South Atlantic and Gulf States, 1932

OPERATING UNITS: BY STATES

Item	North Carolina	South Carolina	Georgia	Florida	Alabama	Mississippi	Louisiana	Texas	Total
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	758	17	86	638	139	474	154	143	2,409
On boats and shore:									
Regular	2,754	615	427	5,988	360	829	1,864	1,223	14,060
Casual	1,411	843	539	1,331	90	205	289	383	5,091
Total	4,923	1,475	1,052	7,957	589	1,508	2,307	1,749	21,560
Vessels:									
Motor	79	4	20	98	31	114	62	33	441
Net tonnage	1,234	59	245	2,467	299	1,507	447	388	6,646
Sail	53			1		15	2		71
Net tonnage	502			64		237	38		841
Total vessels	132	4	20	99	31	129	64	33	512
Total net tonnage	1,736	59	245	2,531	299	1,744	485	388	7,487
Boats:									
Motor	1,154	84	119	2,318	153	268	574	382	5,052
Other	1,584	773	523	2,945	151	407	996	418	7,797
Accessory boats	70		4	11					85
Apparatus:									
Purse seines:									
Menhaden	33		2	5					40
Length, yards	8,025		600	1,450					10,075
Other	1			1					2
Length, yards	175			400					575
Haul seines:									
Common	454	20	11	110	5	3	102	54	759
Length, yards	66,326	2,780	1,105	34,300	2,900	800	13,434	9,315	130,960
Long	56			76					132
Length, yards	58,275			59,200					117,475
Gill nets:									
Anchor	1,661	324	45	12					2,042
Square yards	908,610	154,872	10,625	9,600					1,083,707

[1] These are the numbers given to these areas by the North American Council on Fishery Investigations. For a clearer understanding of the statistics published in this section, the reader is referred to the section in the latter part of this document entitled "Statistical survey procedure."

Fisheries of the South Atlantic and Gulf States, 1932—Continued

OPERATING UNITS: By states—Continued

Item	North Carolina	South Carolina	Georgia	Florida	Alabama	Mississippi	Louisiana	Texas	Total
Apparatus—Con.									
Gill nets.—Con.	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Drift	227	323	158	146					854
Square yards	399,265	284,554	111,863	139,606					935,288
Runaround	188	7	10	2,111				47	2,363
Square yards	83,500	1,450	3,170	2,110,492				13,165	2,211,777
Stake	5,271		40	5	18			267	5,601
Square yards	561,965		10,050	1,250	2,880			74,845	650,990
Trammel nets				182	53	39	23	61	358
Square yards				122,469	17,365	15,775	6,985	22,071	184,665
Lines:									
Hand	86	180	43	1,620	149	132	167	467	2,844
Hooks	166	550	46	2,573	260	142	172	594	4,503
Troll	45			1,190	2			8	1,245
Hooks	45			1,485	2			8	1,540
Trot with baits or snoods	156	6	31	13	15	36	318	25	600
Baits or snoods	119,000	4,500	9,390	2,700	2,336	8,895	60,025	3,175	210,021
Trot with hooks	26		40	198	101		3	48	416
Hooks	3,200		2,840	85,005	10,370		300	6,915	108,630
Pound nets	1,722			13					1,735
Weirs	2								2
Wheels	21								21
Stop nets				7					7
Square yards				11,475					11,475
Fyke nets	801			278	6				1,085
Dip nets:									
Common	204			50					254
Drop				54		130	1,520		1,704
Cast nets			10	16		60	18		104
Otter trawls:									
Fish	2			4					6
Yards at mouth	41			109					150
Shrimp	51	28	125	376	112	255	476	251	1,674
Yards at mouth	1,007	560	2,510	7,135	1,465	3,154	5,942	3,634	25,407
Pots:									
Crab			12	1,433					1,445
Eel	1,285			40					1,325
Fish	465		81	1,515					2,061
Sea crawfish				3,190					3,190
Spears	50	6		27	30	63		152	328
Dredges:									
Clam				1					1
Oyster	182			2		328	26	39	577
Yards at mouth	182			2		329	26	38	577
Scallop	64								64
Yards at mouth	64								64
Tongs	387	6	120	413	142	245	465	222	2,000
Rakes	483		4						487
Forks				40					40
Grabs		333	60						393
Coquina scoops				3					3
Hooks, sponge				201					201
Diving apparatus				54					54

CATCH: By states [1]

Species	North Carolina		South Carolina		Georgia	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	6,584,000	$41,899				
Black bass	31,800	3,180				
Bluefish	686,597	16,409	4,062	$325		
Bowfin	1,700	17				
Butterfish	54,514	786				
Carp	128,400	6,640				
Catfish and bullheads	524,904	9,600			98,389	$5,841
Cero	13,000	520				
Croaker	4,540,356	46,642			8,226	329
Drum, red or redfish	87,200	1,744	3,170	108	2,141	107
Eels	56,715	1,877			550	22
Flounders	789,767	32,797	5,175	284	2,904	88
Gizzard shad	19,200	161				

See footnotes at end of table.

Fisheries of the South Atlantic and Gulf States, 1932—Continued

CATCH: BY STATES—Continued

Species	North Carolina		South Carolina		Georgia	
FISH—continued	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Grunts			6,300	$220		
Hake	1,624	$22				
Harvestfish or "starfish"	1,077,381	11,858				
Hickory shad	117,325	4,055	11,066	886	9,841	$707
Hogfish	992	12				
King whiting or "kingfish"	300,048	4,033	16,210	610	19,746	617
Menhaden	54,476,000	75,135			11,520,000	16,000
Mullet	2,472,050	51,655	148,050	6,042	52,627	1,904
Pigfish	62,200	627				
Pike or pickerel	5,200	393				
Pinfish or sailors choice	270,000	1,012				
Pompano	150	22				
Scup	5,615	172				
Sea bass	202,495	6,251	218,750	8,187	32,000	960
Shad	924,994	125,926	123,036	15,459	288,145	45,111
Sharks			8,000	80		
Sheepshead	2,650	53				
Spanish mackerel	77,900	3,660				
Spot	1,587,555	17,821	10,000	400	9,542	351
Squeteagues or "sea trout":						
Gray	3,636,323	64,097	2,460	148	2,000	120
Spotted	1,895,700	78,363	14,355	1,048	46,210	3,357
Striped bass	506,760	54,516				
Sturgeon	1,661	179	23,340	3,734	4,965	397
Suckers	450	9				
Sunfish	55,250	1,105				
White perch	831,600	21,302				
Yellow perch	179,900	4,871				
Total	82,209,976	689,421	593,974	37,531	12,097,286	75,911
SHELLFISH, ETC.						
Crabs:						
Hard[1]	1,847,600	18,448	16,000	320	225,492	3,383
Soft	308,555	33,921				
Shrimp	292,104	9,393	1,500,687	32,529	3,601,564	89,547
Clams:						
Hard, public[2]	260,624	17,278	4,800	600	600	75
Oysters:[4]						
Market, public, spring	626,462	25,067	1,205,886	21,569		
Market, public, fall	563,478	25,613	475,704	10,175		
Market, private, spring	10,216	559	429,460	9,646	413,121	8,789
Market, private, fall	1,200	100	306,791	10,466	175,287	6,881
Scallops, bay	91,458	6,560				
Octopus			1,200	72		
Squid	763	13				
Terrapin, diamond-back	1,557	370	1,786	483	9,645	1,356
Total	4,004,017	137,322	3,942,314	85,860	4,425,709	110,031
Grand total	86,213,993	826,743	4,536,288	123,391	16,522,995	185,942

Species	Florida		Alabama		Mississippi	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives	79,947	$437				
Amberjack	4,577	122				
Barracuda	4,245	180				
Black bass	278,477	18,518				
Bluefish	1,421,233	60,614	12,401	$563	4,730	$86
Blue runner or hardtail	162,507	2,311	924	17		
Buffalofish			11,829	323		
Butterfish	997	47				
Cabio or crab eater	5,145	103	550	15	110	2
Catfish and bullheads	3,531,636	116,214	60,211	2,736	27,115	493
Cero	275	4				
Cigarfish	9,350	170				
Cod	2,039	43				
Crappie	404,926	11,866				
Crevalle	22,751	518	259	5	990	9
Croaker	25,775	431	18,111	330	10,835	191
Dolphin	12,050	361				
Drum:						
Black	48,010	817	742	14	8,937	115
Red or redfish	764,784	11,894	44,292	2,645	75,100	2,062
Eels	7,560	153				
Flounders	455,131	12,365	21,490	1,668	46,540	2,129
Frigate mackerel	2,250	90				

Fisheries of the South Atlantic and Gulf States, 1932—Continued

CATCH: BY STATES—Continued

Species	Florida		Alabama		Mississippi	
FISH—continued	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Groupers	3,163,878	$64,600	99,746	$1,998	16,117	$322
Grunts	44,391	1,297				
Hake	8,218	165				
Hickory shad	28,147	507				
Hogfish	28,430	853				
Jewfish	30,290	1,034				
Kingfish or "king mackerel"	3,294,501	119,514	880	40		
King whiting or "kingfish"	285,059	6,880	3,718	68	2,728	45
Ladyfish	2,622	39				
Menhaden	23,349,860	41,220				
Mojarro	35,589	514				
Mullet	21,141,449	338,254	696,958	10,673	564,970	8,235
Muttonfish	203,135	8,811				
Paddlefish or spoonbill cat			1,320	60		
Permit	2,850	107				
Pigfish	66,548	948				
Pinfish or sailors choice	24,977	485				
Pompano	581,263	80,087	3,144	436	132	12
Porgies	25,786	512				
Porkfish	363	7				
Scup	247,792	5,936				
Sea bass	250,995	8,102				
Shad	546,086	52,940				
Sharks	5,043,000	12,005				
Sheepshead	535,330	8,456	4,441	120	23,815	539
Snapper:						
Mangrove	95,580	2,407				
Red	4,588,265	228,536	621,573	30,263	36,812	1,841
Snook or sergeantfish	301,780	6,936				
Spanish mackerel	6,337,598	209,836	8,028	292		
Spot	68,360	925	401	7		
Squeteagues or "sea trout":						
Gray	21,418	676	6,050	110	103,015	1,873
Spotted	2,666,525	106,425	103,224	9,392	124,394	4,524
Sturgeon	4,379	199	10,742	977		
Sunfish	662,494	16,831				
Tenpounder	77,845	1,349	1,400	14	350	4
Tripletail	890	18			176	4
Tuna or "horse mackerel"	3,350	134				
Turbot	4,125	124				
Yellowtail	91,870	4,441				
Total	81,108,701	1,569,398	1,792,434	62,766	1,046,966	22,486
SHELLFISH, ETC.						
Crabs:						
Hard [3]	82,182	3,519	70,070	982	320,107	4,665
Soft			1,280	236	3,572	893
Stone	153,825	8,335				
Sea crawfish or spiny lobster	445,547	32,078				
Shrimp	18,136,334	535,198	3,381,700	71,910	14,009,720	267,428
Clams:						
Coquina	5,400	335				
Hard, public [3]	1,120,812	42,742				
Conchs	1,500	120				
Oysters: [4]						
Market, public, spring	542,438	21,493	748,952	27,216	4,472,358	169,783
Market, public, fall	659,715	35,668	88,485	3,892	749,962	32,162
Market, private, spring	186,558	7,886	3,960	220		
Market, private, fall	113,495	6,320	17,820	990		
Scallops, bay	61,965	6,885				
Squid	7,553	147				
Frogs			697	104		
Terrapin, diamond-back			1,089	275		
Turtles, soft-shell	51,669	336				
Sponges:						
Grass	181,367	37,319				
Sheepswool	277,087	593,674				
Velvet	71	20				
Wire	29,466	13,387				
Yellow	124,536	52,524				
Total	22,181,520	1,403,986	4,314,053	105,825	19,555,719	474,931
Grand total	103,290,221	2,973,384	6,106,487	168,591	20,602,585	497,417

See footnotes at end of table.

Fisheries of the South Atlantic and Gulf States, 1932—Continued

CATCH: BY STATES—Continued

Species	Louisiana		Texas		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Alewives					6,663,947	$42,336
Amberjack					4,577	122
Barracuda					4,245	180
Black bass					310,277	21,698
Bluefish			1,760	$80	2,130,783	78,077
Blue runner or hardtail					163,431	2,328
Bowfin					1,700	17
Buffalofish					11,829	323
Butterfish					55,511	833
Cabio or crab eater					5,805	120
Carp					128,400	6,640
Catfish and bullheads	44,850	$1,583	76,825	2,752	4,363,930	139,219
Cero					13,275	524
Cigarfish					9,350	170
Cod					2,039	43
Crappie					404,926	11,866
Crevalle	300	9			24,300	541
Croaker	44,470	1,924	27,025	576	4,674,798	50,423
Dolphin					12,050	361
Drum:						
Black	87,412	2,704	932,091	17,153	1,077,192	20,803
Red or redfish	281,739	14,493	824,819	45,322	2,083,245	78,375
Eels					64,825	2,052
Flounders	4,405	314	70,515	4,614	1,395,927	54,259
Frigate mackerel					2,250	90
Garfish	300	15			300	15
Gizzard shad					19,200	161
Groupers	3,400	68	18,301	380	3,301,442	67,368
Grunts					50,691	1,517
Hake					9,842	187
Harvestfish or "starfish"					1,077,381	11,858
Hickory shad					166,379	6,155
Hogfish					29,422	865
Jewfish	2,400	48	5,750	165	38,440	1,247
Kingfish or "king mackerel"			5,280	162	3,300,661	119,746
King whiting or "kingfish"	16,000	374	8,535	155	652,044	12,782
Ladyfish					2,622	39
Menhaden					89,345,860	132,355
Mojarro					35,589	514
Mullet	6,300	155	4,950	90	25,087,354	417,008
Muttonfish					203,135	8,811
Paddlefish or spoonbill cat					1,320	60
Permit					2,850	107
Pigfish					128,748	1,575
Pike or pickerel					5,200	393
Pinfish or sailors choice					294,975	1,497
Pompano	90	11	5,159	469	589,938	81,037
Porgies					25,786	512
Porkfish					363	7
Scup					253,407	6,108
Sea bass					704,240	23,500
Shad					1,882,261	239,436
Sharks					5,051,000	12,085
Sheepshead	77,673	4,019	29,154	599	673,063	13,786
Snapper:						
Mangrove					95,580	2,407
Red	66,884	4,013	985,291	50,076	6,358,825	314,729
Snook or sergeantfish			20,893	569	322,673	7,505
Spanish mackerel	400	16	41,140	2,616	6,465,066	216,420
Spot	3,450	87			1,679,308	19,591
Squeteagues or "sea trout":						
Gray	220,471	6,603			3,991,737	73,627
Spotted	412,427	31,607	976,344	63,660	6,239,179	298,376
Striped bass			495	18	507,255	54,534
Sturgeon					45,087	5,486
Suckers					450	9
Sunfish					717,744	17,936
Tenpounder					79,595	1,367
Tripletail	990	49			2,056	71
Tuna or "horse mackerel"					3,350	134
Turbot					4,125	124
White perch					831,600	21,302
Yellow perch					179,900	4,871
Yellowtail					91,870	4,441
Total	1,273,961	68,092	4,034,327	189,456	184,157,525.	2,715,061

Fisheries of the South Atlantic and Gulf States, 1932—Continued

CATCH: BY STATES—Continued

Species	Louisiana		Texas		Total	
SHELLFISH, ETC.						
Crabs:	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Hard [2]	5,877,737	$56,776	44,660	$669	8,483,848	$88,762
Soft	99,340	25,258			412,747	60,308
Stone					153,825	8,335
Sea crawfish or spiny lobster					445,547	32,078
Shrimp	38,095,780	800,452	9,244,246	229,529	88,262,135	2,035,986
Clams:						
Coquina					5,400	335
Hard, public [3]					1,386,836	60,695
Conchs					1,500	120
Oysters: [4]						
Market, public, spring	267,672	16,054	442,932	25,591	8,306,700	312,773
Market, public, fall			537,669	27,019	3,075,013	134,529
Market, private, spring	1,164,853	92,616			2,208,168	119,716
Market, private, fall	1,545,536	119,657			2,160,129	144,414
Scallops, bay					153,423	13,445
Octopus					1,200	72
Squid					8,316	160
Frogs					697	104
Terrapin, diamond-back	8,996	1,619			23,073	4,103
Turtles:						
Soft-shell					51,669	336
Loggerhead	6,450	129			6,450	129
Sponges:						
Grass					181,367	37,319
Sheepswool					277,087	593,674
Velvet					71	20
Wire					29,466	13,387
Yellow					124,536	52,524
Total	47,066,364	1,112,561	10,269,507	282,808	115,759,203	3,713,324
Grand total	48,340,325	1,180,653	14,303,834	472,264	299,916,728	6,428,385

[1] Excluding seed oyster fishery. The seed oyster fishery was prosecuted in this section only in North Carolina where 12 regular fishermen using 6 motor boats and 12 dredges with an aggregate of 12 yards at the mouth took 39,741 bushels of seed oysters, valued at $8,280, from public beds. None of these fishermen, craft, or gear was duplicated among those in the fisheries for market oysters or other species.

[2] Statistics on hard crabs used in this table are based on yields of 3 pounds per dozen in North Carolina; 6 pounds, in South Carolina and Georgia; 7.32 pounds, in Florida; 6.25 pounds, in Mississippi; 6.98 pounds, in Alabama and Texas; and 6.45 pounds, in Louisiana.

[3] Statistics on hard clams used in this table are based on yields of 8 pounds of meats per bushel in all States.

[4] Statistics on market oysters used in this table are based on yields of 5.71 pounds of meats per bushel in North Carolina; 4.76, in South Carolina; 5.69, in Georgia; 3.29, in Florida; 2.40, in Alabama; 2.19, in Mississippi; 4.14, in Louisiana; and 5.05, in Texas.

NOTE.—Of the total catch in North Carolina, 268,136 pounds of fishery products, valued at $5,925, were taken in the winter trawl fishery off Maryland, Virginia, and North Carolina. Of the total catch in Florida, 942,791 pounds of fishery products, valued at $20,607, were taken in the same fishery. These products consisted principally of scup, sea bass, flounders, croakers, and gray squeteague.

Industries related to the fisheries of the South Atlantic and Gulf States

OPERATING UNITS, SALARIES, AND WAGES, 1931

Item	North Carolina	South Carolina	Georgia	Florida	Alabama	Mississippi	Louisiana	Texas	Total
Transporting:									
Persons engaged:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	60	85	8	43	9		147	2	354
On boats	4	39		73	2	16	255		389
Total	64	124	8	116	11	16	402	2	743
Vessels:									
Motor	37	9	4	22	8		71	1	152
Net tonnage	342	101	26	318	68		579	6	1,440
Sail		29		1					30
Net tonnage		263		16					279
Total vessels	37	38	4	23	8		71	1	182
Total net tonnage	342	364	26	334	68		579	6	1,719
Boats	2	41		72	1	8	127		251

Industries related to the fisheries of the South Atlantic and Gulf States—Continued

OPERATING UNITS, SALARIES, AND WAGES, 1931—Continued

Item	North Carolina	South Carolina	Georgia	Florida	Alabama	Mississippi	Louisiana	Texas	Total
Wholesale and manufacturing:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Establishments	64	28	35	250	20	46	90	52	585
Persons engaged:									
Proprietors	70	23	34	311	27	62	112	61	700
Salaried employees	25	24	22	105	16	31	96	33	352
Wage earners:									
Average for season	669	763	1,198	2,447	352	2,286	3,287	1,581	12,583
Average for year	265	269	273	927	183	968	1,280	416	4,581
Paid to salaried employees	$33,112	$58,986	$64,047	$257,707	$41,238	$82,525	$202,958	$45,430	$786,003
Paid to wage earners	$146,855	$109,845	$137,498	$561,198	$59,919	$301,101	$541,074	$178,050	$2,035,540
Total salaries and wages	$179,967	$168,831	$201,545	$818,905	$101,157	$383,626	$744,032	$223,480	$2,821,543
Fishermen manufacturing	729	10	17	254	46	86	10	227	1,379

PRODUCTS MANUFACTURED

Item	North Carolina		South Carolina		Georgia		Florida	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
By manufacturing establishments:								
Groupers, fresh steaks [1] pounds							254,000	$26,200
Menhaden products:								
Acid scrap [1] tons	3,564	$56,733			(2)	(2)	150	9,000
Dry scrap [1] do	2,566	84,282					5,069	138,475
Fish meal [1] do	737	24,008					2,948	81,776
Oil [1] gallons	233,866	23,007			(2)	(2)	666,111	68,522
Mullet:								
Salted pounds	278,000	11,335					320,167	12,754
Roe, salted do							30,590	6,485
Crab meat, packaged, fresh-cooked pounds	188,032	33,748			18,250	$5,844	(2)	(2)
Shrimp:								
Cooked and peeled do					(2)	(2)		
Canned [1] standard cases			(2)	(2)	115,945	501,686	86,013	343,209
Oysters:								
Fresh-shucked gallons	119,238	111,350	20,514	$21,668	23,467	25,897	113,629	142,827
Canned [1] standard cases			93,082	274,674	(2)	(2)	(2)	(2)
Crushed shells for poultry feed [1] tons	(2)	(2)	(2)	(2)			65,383	318,715
Marine-shell novelties [1]								600
Unclassified products:								
Steaks and fillets, fresh and frozen [1] pounds	(3)	(3)					[4] 29,000	[4] 5,194
Canned [1] standard cases		(3)		(3)		(3)	[6] 21,506	[6] 124,689
Miscellaneous [7]		[8] 10,365		[9] 131,750		[10] 69,495		[11] 17,925
Total		354,828		428,092		602,922		1,296,371

[1] Data are for 1933.
[2] This item has been included under "Unclassified products."
[3] This item has been included under "Miscellaneous."
[4] Includes fresh fillets of red drum, grouper, kingfish, mullet, red snapper, Spanish mackerel, squeteagues, and snook; and fresh steaks of red snapper.
[6] Includes canned coquina broth, hard clam products, conch cocktail, oysters, and turtle products.
[7] Both 1931 and 1933 data are included in these items.
[8] Includes canned alewife roe; salted spot; fresh fillets of squeteagues; fresh-shucked hard clams; and oyster shell products.
[9] Includes canned shrimp and oyster-shell products.
[10] Includes cooked and peeled shrimp; fresh-shucked hard clams; canned oysters; and menhaden products.
[11] Includes dry-salted bluefish and Spanish mackerel; fresh-cooked crab meat; fresh-shucked bay scallops, hard clams and conchs; shark hides, fins and oil; oyster-shell lime; and fish scale novelties.

Industries related to the fisheries of the South Atlantic and Gulf States—Continued

PRODUCTS MANUFACTURED—Continued

Item	North Carolina		South Carolina		Georgia		Florida	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
By fishermen:								
Alewives:								
Corned.....pounds	2,562,600	$34,977						
Tight-pack cut.....do	23,100	847						
Tight-pack roe.....do	182,000	7,861						
Smoked.....do	6,000	450						
Mullet:								
Salted.....do	110,000	4,900					475,195	$18,793
Roe, salted.....do							44,114	10,865
Spot, salted.....do	25,000	1,125						
Sturgeon caviar.....do			312	$156			12	10
Crab meat, packaged, fresh-cooked.....pounds							1,000	500
Clams, hard, fresh-shucked gallons	200	300						
Oysters, fresh-shucked gallons	15,150	12,120	1,139	1,159	5,648	$5,648	27,915	35,870
Scallops, bay, fresh-shucked.....gallons	55,000	56,250					1,265	1,305
Total		118,829		1,315		5,648		67,343
Grand total		473,657		429,407		608,570		1,363,714

Item	Alabama		Mississippi		Louisiana		Texas	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
By manufacturing establishments:								
Groupers, fresh steaks [1] pounds	(2)	(2)						
Crab meat, packaged, fresh-cooked.....pounds			22,500	$5,825	174,550	$47,184		
Shrimp:								
Fresh and frozen packaged pounds							2,086,950	$294,903
Sun-dried.....do					1,333,568	302,041		
Cooked and peeled.....do			326,550	81,638				
Canned [1].....standard cases	73,705	$298,181	119,872	447,072	374,481	1,512,778	70,455	292,301
Meal or "bran" [1].....tons					943	17,550		
Oysters:								
Fresh-shucked.....gallons	20,370	23,424	41,436	42,198	202,015	256,882	65,294	74,448
Canned [1].....standard cases	(2)	(2)	183,127	527,221	19,439	60,164		
Crushed shells for poultry feed [1].....tons	(2)	(2)	14,567	46,992	(2)	(2)		
Unclassified products:								
Steaks and fillets, fresh and frozen [1].....pounds	[3] 16,900	[3] 3,757						
Canned [1].....standard cases		(3)						
Miscellaneous [7]		[12] 45,780		[13] 1,723		[14] 610,914		[15] 5,433
Total		371,142		1,152,674		2,807,513		667,035
By fishermen:								
Crab meat, packaged, fresh-cooked.....pounds							460	115
Shrimp:								
Sun-dried.....do					13,900	2,780		
Meal or "bran".....tons					7	105		
Oysters, fresh-shucked gallons	6,289	6,747	17,133	16,205			46,151	39,718
Total		6,747		16,205		2,885		39,833
Grand total		377,889		1,168,879		2,810,398		706,918

[1] This item has been included under "Unclassified products."
[2] This item has been included under "Miscellaneous."
[7] Includes fresh steaks of grouper and red snapper; and fresh and frozen fillets of flounders, red snapper, Spanish mackerel, and squeteagues.
[12] Includes canned oysters and oyster-shell products.
[13] Includes salted mullet and oyster-shell lime.
[14] Includes sun-dried squeteagues and oyster-shell products.
[15] Includes fresh-cooked crab meat and oyster-shell poultry feed.

NOTE.—Unless otherwise indicated the data are for 1931. The total value of manufactured products for the South Atlantic and Gulf States was as follows: By manufacturing establishments, $7,680,627; and by fishermen, $258,805. Some of the above products may have been manufactured from products imported from another State or country, therefore, they cannot be correlated directly with the catch within the State.

SPONGES SOLD AT THE EXCHANGE, TARPON SPRINGS, FLA.

During 1933 sponges handled on the exchange at Tarpon Springs, Fla., amounted to 373,178 pounds, valued at $420,481. This is a decrease of 13 percent in quantity and 19 percent in value as compared with the transactions on the exchange during 1932. Of the total sponges sold on the exchange during 1933, 107,642 pounds, valued at $184,967, were large wool; 21,689 pounds, valued at $23,983, were medium and small wool; 130,165 pounds, valued at $143,548, were wool rags; 80,164 pounds, valued at $51,487, were yellow; 20,105 pounds, valued at $9,494, were grass; and 13,413 pounds, valued at $7,002, were wire. It is estimated that sponges valued at $95,000 were sold outside the exchange.

FISHERIES OF THE PACIFIC COAST STATES [10]

The yield of the commercial fisheries of the Pacific Coast States (Washington, Oregon, and California) during 1933 amounted to 860,161,216 pounds, valued at $13,987,992 to the fishermen, representing an increase of 53 percent in volume and 47 percent in value as compared with the catch in the previous year. These fisheries gave employment to 18,673 fishermen as compared with 17,882 in 1932.

There were 313 fishery wholesale and manufacturing establishments in the three States in 1933 as compared with 316 in 1931, when the most recent previous survey of such concerns was made. In 1933 these establishments employed 11,993 persons, paid $6,095,492 in salaries and wages, and produced manufactured products (canned, cured, packaged, and byproducts) valued at $28,946,754. In 1931 the wholesale and manufacturing firms employed 11,651 persons, paid $6,750,607 in salaries and wages, and produced manufactured products, valued at $28,652,513.

Fisheries of the Pacific Coast States, 1933

SUMMARY OF CATCH

Product	Washington		Oregon	
	Pounds	*Value*	*Pounds*	*Value*
Fish	123,420,393	$5,230,293	22,503,816	$1,131,977
Shellfish, etc.	5,309,111	453,598	2,029,102	77,867
Total	128,729,504	5,683,891	24,532,918	1,209,844

Product	California		Total	
	Pounds	*Value*	*Pounds*	*Value*
Fish	694,598,850	$6,430,698	840,523,059	$12,792,968
Shellfish, etc.	7,969,054	579,292	15,307,267	1,110,757
Whale products	4,330,890	84,267	4,330,890	84,267
Total	706,898,794	7,094,257	860,161,216	13,987,992

[10] Data on the operating units and catch of the fisheries of the Pacific Coast States have been taken largely from statistics collected by the various State agencies. Supplementary surveys, compilations, and analyses have been made by agents of this Bureau in order that the figures may be presented in a manner comparable with those of other sections. While statistics of the fisheries of California are for the calendar year, those for Oregon and Washington are for the fiscal year ending March 31, except that statistics of the halibut fishery in these latter States are for the calendar year. For a clearer understanding of the statistics published in this section the reader is referred to the section in the latter part of this document entitled "Statistical survey procedure."

Fisheries of the Pacific Coast States, 1933—Continued

OPERATING UNITS: By states

Item	Washington				Oregon		
	Puget Sound district	Coastal district	Columbia River district	Total	Columbia River district	Coastal district	Total
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	3,112	41	4	3,157	42	33	75
On boats and shore	1,787	2,818	1,251	5,856	2,011	1,416	3,427
Total	4,899	2,859	1,255	9,013	2,053	1,449	3,502
Vessels:							
Steam	3			3			
Net tonnage	75			75			
Motor	484	20	1	505	21	12	33
Net tonnage	10,421	166	9	10,596	213	120	333
Sail	3			3			
Net tonnage	1,349			1,349			
Total vessels	490	20	1	511	21	12	33
Total net tonnage	11,845	166	9	12,020	213	120	333
Boats:							
Motor	793	442	640	1,875	1,079	943	2,022
Other	444	164	89	697	51	156	207
Apparatus:							
Purse seines:							
Salmon	241			241			
Length, yards	144,118			144,118			
Haul seines	59		31	90	32	2	34
Length, yards	5,216		9,550	14,766	15,135	317	15,452
Gill nets:							
Drift:							
Salmon	304	114	434	852	823	485	1,308
Square yards	398,488	207,480	1,206,520	1,812,488	2,588,335	638,260	3,226,595
Set:							
Salmon	4	190	134	328	122	750	870
Square yards	1,080	52,500	34,036	87,616	32,330	114,000	146,332
Lines:							
Trawl, set, and hand	25,215		166	25,381	342	915	1,257
Hooks	521,129		4,725	525,854	10,450	19,775	30,225
Troll	1,580	605	18	2,203	755	515	1,270
Hooks	7,118	2,722	85	9,925	3,397	2,317	5,714
Pound nets	88	105	204	397	35		35
Brush weirs	4			4			
Fish wheels			29	29			
Dip nets	7	46	150	203	140		140
Drag bag nets	29	4		33			
Length, yards	2,382	260		2,642			
Reef nets	8			8			
Beam trawls	14			14			
Yards at mouth	66			66			
Otter trawls	16			16		2	2
Yards at mouth	187			187		40	40
Traps:							
Crab	2,800	2,464		5,264		8,340	8,340
Crawfish					1,500		1,500
Tongs, rakes, and shovels	429	2,273		2,702		179	179
Dredges, oyster		4		4			
Yards at mouth		4		4			

Item	California						Grand total
	Northern district	San Francisco district	Monterey district	San Pedro district	San Diego district	Total	
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	34	388	538	1,610	710	3,280	6,512
On boats and shore	455	1,004	539	666	214	2,878	12,161
Total	489	1,392	1,077	2,276	924	6,158	18,673
Vessels:							
Steam		2				2	5
Net tonnage		41				41	119
Motor	15	41	60	184	81	381	919
Net tonnage	132	821	1,560	6,862	4,562	13,937	24,866
Sail		2				2	5
Net tonnage		824				824	2,173
Total vessels	15	45	60	184	81	385	929
Total net tonnage	132	1,686	1,560	6,862	4,562	14,802	27,155

Fisheries of the Pacific Coast States, 1933—Continued

OPERATING UNITS: By states—Continued

Item	California						Grand total
	Northern district	San Francisco district	Monterey district	San Pedro district	San Diego district	Total	
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Boats:							
Motor	20	564	208	315	97	1,386	5,283
Other	128	92	63	49	2	334	1,238
Apparatus:							
Purse seines:							
Barracuda				19		19	19
Length, yards				7,942		7,942	7,942
Salmon							241
Length, yards							144,118
Sardine		10	33	80		123	123
Length, yards		3,287	10,960	30,240		44,487	44,487
Tuna				47		47	47
Length, yards				27,129		27,129	27,129
Lampara nets:							
Mackerel				58	17	75	75
Length, yards				23,086	5,610	28,696	28,696
Sardine		18	33	28	6	85	85
Length, yards		6,165	10,101	12,437	2,550	31,253	31,253
Squid			34			34	34
Length, yards			6,507			6,507	6,507
Other				7		7	7
Length, yards				2,220		2,220	2,220
Haul seines	5	1		1		7	131
Length, yards	1,040	165		214		1,419	31,637
Gill nets:							
Drift:							
Barracuda				26	17	43	43
Square yards				240,237	137,003	377,240	377,240
Salmon	128	152				280	2,440
Square yards	122,131	464,138				586,269	5,625,352
Sea bass		2	4			6	6
Square yards		1,060	11,408			12,468	12,468
Shad		188				188	188
Square yards		627,655				627,655	627,655
Set:							
"California halibut"			11			11	11
Square yards			54,733			54,733	54,733
Salmon							1,200
Square yards							233,946
Sea bass				31	21	52	52
Square yards				167,487	110,061	277,548	277,548
Miscellaneous	15	91	82	30	13	231	231
Square yards	11,210	127,602	111,999	26,441	17,180	294,432	294,432
Trammel nets				39	13	52	52
Square yards				259,508	128,713	388,221	388,221
Lines:							
Trawl, set, and hand	265	1,257	980	1,520	1,006	5,028	31,666
Hooks	45,560	140,349	137,972	281,547	55,418	660,846	1,216,925
Troll	1,056	992	442	274	181	2,945	6,418
Hooks	4,601	5,066	2,596	274	181	12,718	28,357
Pound nets							432
Brush weirs							4
Fish wheels							29
Fyke nets		2,591				2,591	2,591
Dip nets	11	8				19	362
Bag nets, shrimp		11				11	11
Length, yards		7,312				7,312	7,312
Drag bag nets							33
Length, yards							2,642
Reef nets							8
Paranzella nets		8	1	4		13	13
Yards at mouth		133	17	67		217	217
Beam trawls		18				18	32
Yards at mouth		120				120	186
Otter trawls							18
Yards at mouth							227
Traps:							
Crab	324	4,808	47			5,179	18,783
Crawfish							1,500
Lobster				4,791	1,308	6,099	6,099
Octopus			51			51	51
Harpoons:							
Swordfish and turtles				34	18	52	52
Whales		2				2	2
Tongs, rakes, and shovels	16	108	38	42		204	3,085
Abalone outfits			16	1		17	17
Dredges, oyster							4
Yards at mouth							4

Fisheries of the Pacific Coast States, 1933—Continued

CATCH: BY STATES

Species	Washington		Oregon	
FISH	*Pounds*	*Value*	*Pounds*	*Value*
Carp	74,240	$2,227	8,500	$170
Cod [1]	10,501,381	106,423		
Flounders:				
"Sole"	536,004	15,003	34,412	676
Other	62,027	1,230	32,406	433
Halibut	23,765,161	1,527,349	410,442	23,766
Herring	582,329	5,823	30,038	302
"Lingcod"	669,644	18,406	213,502	3,911
Perch	20,178	732	15,322	193
Pilchard or sardine			7,090	71
Rockfishes	301,621	9,667	48,709	859
Sablefish	1,359,724	41,898	23,816	607
Salmon:				
Blueback, red or sockeye	9,761,564	865,338	104,849	8,913
Chinook or king	17,420,915	1,055,289	13,123,423	794,300
Chum or keta	6,896,559	166,263	1,174,333	14,628
Humpback or pink	38,594,513	906,887	4,667	184
Silver or coho	10,109,215	411,364	4,932,093	189,140
Shad	87,529	1,751	360,744	6,048
Smelt	1,285,648	24,999	545,319	11,955
Steelhead trout	1,345,814	68,632	1,356,421	73,380
Striped bass			24,021	1,038
Sturgeon	39,234	871	51,729	1,284
Tuna and tunalike fishes, albacore			1,980	119
Other fish	7,093	141		
Total	123,420,393	5,230,293	22,503,816	1,131,977
SHELLFISH, ETC.				
Crabs	1,114,424	46,710	1,838,040	55,996
Crawfish			99,000	9,900
Shrimp	52,867	4,229		
Clams:				
Hard	555,067	25,178		
Razor	540,271	77,182	46,347	6,621
Mixed			15,965	950
Octopus	24,113	1,108		
Oysters:				
Eastern, market	1,466	844		
Japanese, market	2,790,750	178,858	25,200	1,800
Native, market	219,968	117,064	4,550	2,600
Scallops	10,185	2,425		
Total	5,309,111	453,598	2,029,102	77,867
Grand total	128,729,504	5,683,891	24,532,918	1,209,844

Species	California [2]		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies	317,292	$3,855	317,292	$3,855
Barracuda	3,072,962	122,601	3,072,962	122,601
Cabrilla	84,612	2,806	84,612	2,806
Carp	57,856	610	140,596	3,007
Catfish	172,463	19,849	172,463	19,849
Cod [1]	5,534,600	49,670	16,035,981	156,093
Corbina	290	23	290	23
Flounders:				
"California halibut"	989,225	63,328	989,225	63,328
"Sole"	8,306,970	332,726	8,877,386	348,405
Other	1,074,732	43,179	1,169,165	44,842
Flyingfish	16,396	501	16,396	501
Grayfish	471,030	8,685	471,030	8,685
Hake	37,539	361	37,539	361
Halibut	321,664	16,459	24,497,267	1,567,574
Hardhead	156,687	7,684	156,687	7,684
Herring	601,445	3,031	1,213,812	9,156
Horse mackerel	1,010,850	11,921	1,010,850	11,921
Kingfish	564,266	12,153	564,266	12,153
"Lingcod"	1,088,955	35,360	1,972,101	57,677
Mackerel	69,614,899	420,148	69,614,899	420,148
Marlin	6,859	281	6,859	281
Mullet	24,014	1,001	24,014	1,001
Perch	215,014	8,522	250,514	9,447
Pilchard or sardine	509,797,481	1,505,117	509,804,571	1,505,188

[1] The cod were taken off Alaska.
[2] Taken off the Pacific coast including Latin America.

Fisheries of the Pacific Coast States, 1933—Continued

CATCH: By states—Continued

Species	California		Total	
	Pounds	*Value*	*Pounds*	*Value*
FISH—continued				
Pompano	4,589	$1,326	4,589	$1,326
Rockbass	348,392	15,432	348,392	15,432
Rockfishes	4,787,610	153,219	5,137,940	163,745
Rudderfish	13,152	547	13,152	547
Sablefish	1,332,573	31,779	2,716,113	74,284
Salmon:				
Blueback, red or sockeye			9,866,413	874,251
Chinook or king	4,569,808	255,701	35,114,146	2,105,290
Chum or keta			8,070,892	180,891
Humpback or pink			38,599,180	907,071
Silver or coho			15,041,308	600,504
Sculpin	68,425	3,806	68,425	3,806
Sea bass:				
Black	449,294	18,054	449,294	18,054
White	1,163,092	68,500	1,163,092	68,500
Shad	1,157,489	27,853	1,605,762	35,652
Sheepshead	58,609	1,616	58,609	1,616
Skates	193,711	2,196	193,711	2,196
Smelt	729,702	27,443	2,560,669	64,397
Spanish mackerel	4,197	191	4,197	191
Splittail	17,509	199	17,509	199
Squawfish	727	25	727	25
Steelhead trout			2,702,235	142,012
Striped bass	485,926	26,764	509,947	27,802
Sturgeon			90,963	2,155
Suckers	14,187	147	14,187	147
Swordfish	850,699	71,078	850,699	71,078
Tai	138	4	138	4
Tomcod	729	15	729	15
Tuna and tunalike fishes:				
Albacore	487	53	2,467	172
Bluefin	560,492	29,352	560,492	29,352
Bonito	2,252,199	40,232	2,252,199	40,232
Skipjack or striped tuna	16,687,308	613,091	16,687,308	613,091
Yellowfin	51,075,630	2,274,831	51,075,630	2,274,831
Whitebait	95,751	3,197	95,751	3,197
Whitefish	95,053	4,430	95,053	4,430
Yellowtail	3,898,888	87,636	3,898,888	87,636
Other fish	144,383	2,110	151,476	2,251
Total	694,598,850	6,430,698	840,523,059	12,792,968
SHELLFISH, ETC.				
Crabs	3,223,312	252,934	6,175,776	355,640
Crawfish			99,000	9,900
Sea crawfish or spiny lobster	1,049,905	144,545	1,049,905	144,545
Shrimp	2,088,750	31,498	2,141,617	35,727
Abalone	551,268	80,433	551,268	80,433
Clams:				
Hard	21,040	5,321	576,107	30,499
Pismo	26,472	5,768	26,472	5,768
Razor			586,618	83,803
Soft	62,834	13,390	62,834	13,390
Mixed			15,965	950
Mussels, sea	47	23	47	23
Octopus	31,521	2,145	55,634	3,253
Oysters:				
Eastern, market	58,419	21,907	59,885	22,751
Japanese, market	26,824	6,706	2,842,774	187,364
Native, market	1,218	558	225,736	120,222
Scallops			10,185	2,425
Squid	824,543	13,939	824,543	13,939
Turtles	2,901	125	2,901	125
Total	7,969,054	579,292	15,307,267	1,110,757
WHALE PRODUCTS				
Whale meat	2,214,000	43,242	2,214,000	43,242
Whale oil	2,116,890	41,025	2,116,890	41,025
Total	4,330,890	84,267	4,330,890	84,267
Grand total	706,898,794	7,094,257	860,161,216	13,987,992

Industries related to the fisheries of the Pacific Coast States, 1933

OPERATING UNITS, SALARIES, AND WAGES

Item	Washington	Oregon	California	Total
Transporting:	*Number*	*Number*	*Number*	*Number*
Persons engaged	179	48	18	245
Vessels, motor	74	26	4	104
Net tonnage	1,763	320	245	2,328
Wholesale and manufacturing:				
Establishments	111	57	145	313
Persons engaged:				
Proprietors	105	53	189	347
Salaried employees	205	72	470	747
Wage earners:				
Average for season	3,016	866	7,017	10,899
Average for year	865	391	2,411	3,667
Paid to salaried employees	$540,577	$192,345	$2,277,735	$3,010,657
Paid to wage earners	$348,157	$456,628	$2,280,050	$3,084,835
Total salaries and wages	$888,734	$648,973	$4,557,785	$6,095,492
Fishermen manufacturing	38		130	168

PRODUCTS MANUFACTURED

Item	Washington		Oregon		California	
By manufacturing firms:	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Barracuda, fresh fillets—pounds					50,000	$6,000
Cabrilla, fresh fillets—do					18,000	2,700
Cod, salted:						
Dry—do	315,980	$17,846			(1)	(1)
Boneless, including absolutely boneless—pounds	1,651,013	119,347			(1)	(1)
Flounders, fresh fillets—do	126,392	15,552	15,300	$1,800	1,779,000	252,750
Herring, smoked:						
Bloaters—do	121,620	12,971				
Other smoked and kippered—pounds	6,850	484				
Lingcod, fresh fillets—do	(1)	(1)	8,240	824	130,000	18,200
Mackerel:						
Canned—standard cases					747,542	1,858,630
Meal—tons					1,278	35,554
Oil—gallons					83,778	10,302
Pilchard:						
Salted—pounds					73,400	4,454
Canned, "sardines"—standard cases					1,539,446	3,805,168
Meal—tons					50,581	1,530,218
Flour—pounds					384	11,334
Oil—gallons					10,263,776	1,593,088
Rockfishes, fresh fillets—pounds					880,000	131,750
Sablefish:						
Fresh fillets—do	(1)	(1)			103,000	11,760
Salted—do	143,300	8,955				
Kippered—do	183,072	22,138				
Salmon:						
Mild-cured [2]—do	3,062,271	530,038	2,486,800	524,154	1,022,175	214,656
Kippered—do	1,018,687	145,732	(1)	(1)		
Smoked—do	45,904	8,591	(1)	(1)	220,233	78,966
Canned:						
Chinook or king—standard cases	74,567	677,206	204,320	2,052,119	(1)	(1)
Blueback, red or sockeye—standard cases	134,080	1,658,052	6,503	88,009		
Silver or coho—do	46,825	294,031	33,917	243,026		
Humpback or pink—do	540,172	2,361,942				
Chum or keta—do	49,779	197,217	27,000	102,136		
Steelhead trout—do	3,481	28,905	14,069	132,321		
Eggs for bait—do	8,537	75,281	649	17,864		
Meal—tons	990	29,698	(1)	(1)		
Oil—gallons	116,401	14,513	35,700	9,500		
Sea bass:						
Black, fresh fillets—pounds					260,000	28,600
White, fresh fillets—do					85,000	16,000
Shad:						
Canned—standard cases			1,148	3,837		
Roe, canned—do	(1)	(1)	321	7,259	711	15,787
Sheepshead, fresh fillets—pounds					15,500	1,920

[1] The production of this item is included under "Unclassified products."
[2] This item is usually an intermediate product and, although included in the total, may be shown in its final stage of processing in this or another State.

Industries related to the fisheries of the Pacific Coast States, 1933—Continued

PRODUCTS MANUFACTURED—Continued

Item	Washington		Oregon		California	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
By manufacturing firms—Continued:						
Tuna and tunalike fishes:						
Canned:						
Albacore—standard cases			(1)	(1)	54,087	$286,236
Bluefin—do					4,179	21,519
Bonito—do					42,439	170,178
Striped—do					225,461	1,022,819
"Tonno"—do					136,740	852,236
Yellowfin—do					936,299	4,417,676
Yellowtail—do					43,918	163,756
Meal—tons					6,004	153,300
Crabs, meat, packaged, fresh-cooked—pounds			197,083	$55,575		
Shrimp, meal—tons					115	4,605
Abalone steaks—pounds					531,698	143,262
Clams, hard:						
Fresh-shucked—gallons	2,513	$2,681				
Canned:						
Whole—standard cases	28,986	56,173				
Minced—do	7,050	28,619				
Chowder, juice and cocktail—standard cases	4,071	9,890				
Clams, razor, canned:						
Minced—do	26,767	246,042	1,165	10,095		
Whole and juice—do	1,454	12,561	111	883		
Clam shells, crushed for poultry feed—tons	1,630	15,340				
Oysters:						
Japanese:						
Fresh-shucked—gallons	100,949	116,776	47,335	43,385	(1)	(1)
Canned—standard cases	30,500	149,190				
Eastern and native, fresh-shucked—gallons	19,607	102,522	6,843	36,762	6,625	26,600
Oyster-shell products:						
Poultry feed—tons	(1)	(1)			16,743	92,682
Lime—do					3,815	12,688
Unclassified:						
Packaged—pounds	[3] 158,842	[3] 35,956		(4)	[5] 1,057,125	[5] 175,900
Salted—do		(4)			[6] 1,226,361	[6] 141,350
Smoked—do			[7] 23,440	[7] 4,759	[8] 194,350	[8] 39,526
Canned, cat and dog food—standard cases					208,780	576,596
Canned, other—do	[9] 477	[9] 6,183	[10] 736	[10] 17,374	[11] 5,063	[11] 40,960
Meal and scrap—tons		(4)		(4)	[12] 1,419	[12] 24,410
Oil—gallons					[13] 273,650	[13] 41,325
Miscellaneous		[14] 19,559		[15] 6,992		[16] 358,058
Total		7,019,992		3,358,674		18,393,519
By fishermen:						
Cod, green-salted [2]—pounds	3,255,428	106,423			1,715,726	48,270
Cod, tongues—do					18,000	1,400
Shrimp:						
Dried—do					115,684	16,196
Meal—tons					114	2,280
Total	3,255,428	106,423			1,849,524	68,146
Grand total		7,126,415		3,358,674		18,461,665

[1] The production of this item is included under "Unclassified products."
[2] This item is usually an intermediate product and, although included in the total, may be shown in its final stage of processing in this or another State.
[3] Includes fresh fillets of halibut, lingcod, and sablefish; packaged fresh-cooked crab meat; and fresh-shucked scallops.
[4] This has been included under "Miscellaneous."
[5] Includes fresh fillets of grayfish and totuava; swordfish steaks; fresh-cooked shrimp meats; and fresh-shucked Japanese oysters.
[6] Includes salted anchovies, barracuda, bonito, mackerel, sea bass, black and white, and yellowtail; mild-cured shad; and dry and boneless salt cod.
[7] Includes smoked salmon, shad, and salmon and shad wieners; and kippered sablefish, salmon, and sturgeon.
[8] Includes smoked chubs, mackerel, and sablefish, and kippered sablefish.
[9] Includes canned shad roe, sea cucumbers, and fish balls and loaf.
[10] Includes canned crabs, smoked lingcod, kippered steelhead trout, kippered Chinook salmon cheeks, smoked sturgeon, and tuna.
[11] Includes canned anchovies, mackerel stew, salmon, and squid.
[12] Includes miscellaneous meal and scrap.
[13] Includes whale, sperm, and miscellaneous oil.
[14] Includes salted salmon, spiced herring, salmon-egg meal, and crushed oyster shell for poultry feed.
[15] Includes fresh fillets of rockfishes, salmon mea , and marine-shell novelties.
[16] Includes dried shrimp, concentrated powdered fish meat, marine-shell novelties, liquid glue, agar agar, and kelp products.

NOTE.—The total value of manufactured products in the Pacific Coast States was as follows: By manufacturing establishments, $28,772,185; and by fishermen, $174,569. Some of the above products may have been imported from another State or a foreign country; therefore, they cannot be correlated directly with the catch within the State. All of the persons engaged in the preparation of fishermen's manufactured products have also been included as fishermen.

WASHINGTON

Fisheries of Washington, 1933

CATCH: BY DISTRICTS

Species	Puget Sound district		Coastal district		Columbia River district	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Carp					74,240	$2,227
Cod [1]	10,501,381	$106,423				
Flounders:						
"Sole"	535,038	14,981			966	22
Other	62,027	1,230				
Halibut	23,704,547	1,523,874	1,950	$98	58,664	3,377
Herring	582,329	5,823				
"Lingcod"	655,131	18,191	4,726	71	9,787	144
Perch	20,178	732				
Rockfishes	293,811	9,540	1,340	20	6,470	107
Sablefish	1,358,345	41,863			1,379	35
Salmon:						
Blueback, red or sockeye	8,989,856	809,073	444,272	28,433	327,436	27,832
Chinook or king	7,262,126	461,355	1,943,545	99,781	8,215,244	494,153
Chum or keta	5,139,810	143,914	1,100,919	13,761	655,830	8,588
Humpback or pink	38,589,383	906,784	5,130	103		
Silver or coho	6,964,821	294,171	2,358,026	86,482	786,368	30,711
Shad					87,529	1,751
Smelt	170,713	10,243	60,700	2,125	1,054,235	12,631
Steelhead trout	42,408	2,969	81,640	3,266	1,221,766	62,397
Sturgeon	319	16			38,915	855
Other fish	7,093	141				
Total	104,879,316	4,351,323	6,002,248	234,140	12,538,829	644,830
SHELLFISH						
Crabs	410,564	16,796	703,860	29,914		
Shrimp	52,867	4,229				
Clams:						
Hard:						
Butter	239,031	9,903				
Little neck	316,036	15,275				
Razor			540,271	77,182		
Octopus	24,113	1,108				
Oysters:						
Eastern, market			1,466	844		
Japanese, market	1,165,101	63,732	1,625,649	115,126		
Native, market	212,458	114,231	7,510	2,833		
Scallops	10,185	2,425				
Total	2,430,355	227,699	2,878,756	225,899		
Grand total	107,309,671	4,579,022	8,881,004	460,039	12,538,829	644,830

[1] The catch of cod were taken off Alaska.

Fisheries of the Puget Sound district of Washington, 1933

OPERATING UNITS: BY GEAR

Item	Purse seines	Haul seines	Gill nets		Lines		Pound nets	Brush weirs	Dip nets
			Drift, salmon	Set, salmon	Trawl, set, and hand	Troll			
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:									
On vessels	1,869	13			1,106	176	15		
On boats and shore	25	169	315	4	45	296	198	8	7
Total	1,894	182	315	4	1,151	472	213	8	7
Vessels:									
Steam							1		
Net tonnage							42		
Motor	236	4			149	100	4		
Net tonnage	5,565	35			4,144	815	119		
Sail					3				
Net tonnage					1,349				
Total vessels	236	4			152	100	5		
Total net tonnage	5,565	35			5,493	815	161		
Boats:									
Motor	5	36	296	4	86	216	15		3
Other		23	8		163		102	4	4
Apparatus:									
Number	241	59	304	4	25,215	1,580	88	4	7
Length, yards	144,118	5,216							
Square yards			398,488	1,080					
Hooks					521,129	7,118			

Fisheries of the Puget Sound district of Washington, 1933—Continued

OPERATING UNITS: BY GEAR—Continued

Item	Drag bag nets	Reef nets	Beam trawls	Otter trawls	Traps, crab	Tongs and rakes	Shovels	Total, exclusive of duplication
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:								
On vessels			24	35		2		3,112
On boats and shore	83	33	8	2	100	256	346	1,787
Total	83	33	32	37	100	258	346	4,899
Vessels:								
Steam			2					3
Net tonnage			33					75
Motor			6	15		1		484
Net tonnage			59	232		8		10,421
Sail								3
Net tonnage								1,349
Total vessels			8	15		1		490
Total net tonnage			92	232		8		11,845
Boats:								
Motor	25	8	6	1	96	32		793
Other	8	16			4	114		444
Apparatus:								
Number	29	8	14	16	2,800	83	346	
Length, yards	2,382							
Yards at mouth			66	187				

CATCH: BY GEAR

Species	Purse seines		Haul seines		Gill nets			
					Drift		Set	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders:								
"Sole"			708	$20				
Other			467	7				
Herring			92,900	929				
"Lingcod"			910	23			5,345	$134
Perch			12,726	509				
Rockfishes			2,374	68			305	9
Salmon:								
Blueback, red or sockeye	3,511,600	$316,044	27,428	2,469	63,383	$5,704	2,973	268
Chinook or king	613,910	27,626	10,626	616	550,456	31,926		
Chum or keta	4,267,690	119,495	2,440	68	192,990	5,404		
Humpback or pink	28,803,522	676,883	35,442	833	160,832	3,780	448	11
Silver or coho	3,199,328	111,976	5,776	277	338,296	16,238	24	1
Smelt			112,692	6,762				
Steelhead trout	1,080	76						
Total	40,397,130	1,252,100	304,489	12,581	1,305,957	63,052	9,095	423
SHELLFISH								
Shrimp			49	4				
Octopus			95	4				
Total			144	8				
Grand total	40,397,130	1,252,100	304,633	12,589	1,305,957	63,052	9,095	423

Fisheries of the Puget Sound district of Washington, 1933—Continued

CATCH: BY GEAR—Continued

Species	Lines				Pound nets		Brush weirs	
	Trawl, set, and hand [1]		Troll					
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Cod [2]	10,501,381	$106,423						
Flounders:								
"Sole"	1,727	48						
Other	1,500	22			126	$2		
Halibut	23,682,511	1,522,759	20,706	$1,035	500	30		
Herring							467,200	$4,672
"Lingcod"	566,314	16,080	11,017	165	311	8		
Perch	631	19						
Rockfishes	240,343	8,040	3,427	51				
Sablefish	1,358,295	41,861						
Salmon:								
Blueback, red or sockeye					5,366,054	482,945		
Chinook or king			2,498,758	177,412	3,584,328	223,551		
Chum or keta					674,080	18,874		
Humpback or pink			19,400	388	9,424,212	221,469		
Silver or coho			1,451,605	71,129	1,958,040	93,986		
Steelhead trout					41,328	2,893		
Sturgeon					319	16		
Other fish					71	1		
Total	36,352,702	1,695,252	4,004,913	250,180	21,049,369	1,043,775	467,200	4,672
SHELLFISH								
Octopus	22,179	1,020						
Grand total	36,374,881	1,696,272	4,004,913	250,180	21,049,369	1,043,775	467,200	4,672

Species	Dip nets		Drag bag nets		Reef nets		Beam trawls [3]	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Herring	1,829	$18	20,400	$204				
Perch			6,414	192				
Rockfishes			132	2				
Salmon:								
Blueback, red or sockeye			1,410	112	17,008	$1,531		
Chinook or king			3,630	200	418	24		
Chum or keta					2,610	73		
Humpback or pink					145,527	3,420		
Silver or coho					11,752	564		
Smelt			58,021	3,481				
Total	1,829	18	90,007	4,191	177,315	5,612		
SHELLFISH								
Shrimp							52,818	$4,225
Octopus			1,580	72				
Scallops							10,185	2,425
Total			1,580	72			63,003	6,650
Grand total	1,829	18	91,587	4,263	177,315	5,612	63,003	6,650

[1] In addition, the vessels in the Pacific coast halibut fleet landed about 485,000 pounds of halibut, sablefish, and "lingcod" livers at Seattle, which were valued at about $73,000.

[2] The cod were taken off Alaska.

[3] Does not include a small amount of sea cucumbers taken by beam trawls. The poundage of scallops is based on a yield of 15 percent meat.

Fisheries of the Puget Sound district of Washington, 1933—Continued

CATCH: BY GEAR—Continued

Species	Otter trawls		Traps		Tongs and rakes		Shovels	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders:								
"Sole"	532,603	$14,913						
Other	59,934	1,199						
Halibut	830	50						
"Lingcod"	71,234	1,781						
Perch	407	12						
Rockfishes	47,230	1,370						
Sablefish	50	2						
Other fish	7,022	140						
Total	719,310	19,467						
SHELLFISH								
Crabs [4]			410,564	$16,796				
Clams:								
Hard: [5]								
Butter							239,031	$9,903
Little neck							316,036	15,275
Octopus	259	12						
Oysters: [6]								
Japanese, market					1,165,101	$63,732		
Native, market					212,458	114,231		
Total	259	12	410,564	16,796	1,377,559	177,963	555,067	25,178
Grand total	719,569	19,479	410,564	16,796	1,377,559	177,963	555,067	25,178

[4] The poundage of crabs is based on a weight of 22 pounds per dozen.
[5] The poundage of hard clams is based on a yield of 28 percent clam meat for butter clams and 24 percent for little neck clams.
[6] The poundage of oysters is based on a yield of 16 percent oyster meat for the native oysters and 13¼ percent meat for the Japanese oysters.

Fisheries of the coastal district of Washington, 1933

OPERATING UNITS: BY GEAR

Item	Gill nets		Lines, troll	Pound nets	Dip nets	Drag bag nets	Traps, crab	Tongs and rakes	Dredges	Shovels	Total, exclusive of duplication
	Drift, salmon	Set, salmon									
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:											
On vessels			17				16		8		41
On boats and shore	120	149	156	65	46	26	60	151		2,200	2,818
Total	120	149	173	65	46	26	76	151	8	2,200	2,859
Vessels, motor			10				8		2		20
Net tonnage			79				74		13		166
Boats:											
Motor	114	104	111	46			48	28			442
Other		62		34		4	7	60			164
Apparatus:											
Number	114	190	605	105	46	4	2,464	73	4	2,200	
Length, yards						260					
Square yards	207,480	52,500									
Yards at mouth									4		
Hooks			2,722								

Fisheries of the coastal district of Washington, 1933—Continued

CATCH: BY GEAR

Species	Gill nets				Lines, troll		Pound nets	
	Drift		Set					
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Halibut					1,950	$98		
"Lingcod"					4,726	71		
Rockfishes					1,340	20		
Salmon:								
Blueback, red or sockeye			444,272	$28,433				
Chinook or king	473,135	$15,140	239,131	7,652	963,794	68,429	267,485	$8,560
Chum or keta	137,388	1,717	325,752	4,072			637,779	7,972
Humpback or pink					5,130	103		
Silver or coho	388,954	12,446	522,580	16,723	787,553	36,227	658,939	21,086
Steelhead trout	1,460	58	71,890	2,876			8,290	332
Total	1,000,937	29,361	1,603,625	59,756	1,764,493	104,948	1,572,493	37,950

Species	Dip nets		Drag bag nets		Traps		Dredges, tongs, and rakes		Shovels	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Smelt	15,700	$550	45,000	$1,575						
SHELLFISH										
Crabs [1]					703,860	$29,914				
Clams, razor [2]									540,271	$77,182
Oysters: [3]										
Eastern, market							1,466	$844		
Japanese, market							1,625,649	115,126		
Native, market							7,510	2,833		
Total					703,860	29,914	1,634,625	118,803	540,271	77,182
Grand total	15,700	550	45,000	1,575	703,860	29,914	1,634,625	118,803	540,271	77,182

[1] The poundage of crabs is based on a weight of 20 pounds per dozen.
[2] The poundage of razor clams is based on a yield of 42 percent of cleaned clam meat.
[3] The poundage of oysters is based on a weight of 13 percent oyster meat for eastern oysters, 14 percent for Japanese oysters, and 14 percent for native oysters.

Fisheries of the Columbia River district of Washington, 1933

OPERATING UNITS: BY GEAR

Item	Haul seines	Gill nets		Lines		Pound nets	Fish wheels	Dip nets	Total, exclusive of duplication
		Drift, salmon	Set, salmon	Trawl and set	Troll				
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels				4					4
On boats and shore	326	596	65	7	6	182	20	150	1,251
Total	326	596	65	11	6	182	20	150	1,255
Vessels, motor				1					1
Net tonnage				9					9
Boats:									
Motor	20	434	50	7	4	88		78	640
Other	30		15			40		6	89
Apparatus:									
Number	31	434	134	166	18	204	29	150	
Length, yards	9,550								
Square yards		1,206,520	34,036						
Hooks				4,725	85				

Fisheries of the Columbia River district of Washington, 1933—Continued

CATCH: BY GEAR

Species	Haul seines		Gill nets: Drift		Gill nets: Set		Lines: Trawl and set	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Carp	74,240	$2,227						
Flounders, "sole"							966	$22
Halibut							58,664	3,377
"Lingcod"							9,787	144
Rockfishes							6,470	107
Sablefish							1,379	35
Salmon:								
Blueback, red or sockeye	8,911	757	24,334	$2,068	12,279	$1,044		
Chinook or king	1,339,380	80,095	3,665,013	219,168	81,094	4,622		
Chum or keta	5,690	71	483,122	6,329	18,244	239		
Silver or coho	37,711	1,395	249,561	10,107	11,865	415		
Shad	54,529	1,091	26,724	534	128	3		
Smelt			167,100	3,760				
Steelhead trout	236,594	11,830	404,115	21,256	17,742	915		
Sturgeon	2,272	32	17,590	369	1,073	32	3,182	95
Total	1,759,327	97,498	5,037,559	263,591	142,425	7,270	80,448	3,780

Species	Lines: Troll		Pound nets		Fish wheels		Dip nets	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Salmon:								
Blueback, red or sockeye			31,013	$2,636	204,406	$17,375	46,493	$3,952
Chinook or king	27,273	$2,057	2,345,635	140,269	478,444	35,692	278,405	12,250
Chum or keta			148,774	1,949				
Silver or coho	51,376	2,248	430,374	16,354	126	5	5,355	187
Shad			1,838	37	4,310	86		
Smelt							887,135	8,871
Steelhead trout			463,120	23,712	65,200	2,934	34,995	1,750
Sturgeon			3,913	76	10,749	247	136	4
Total	78,649	4,305	3,424,667	185,033	763,235	56,339	1,252,519	27,014

OREGON

Fisheries of Oregon, 1933

CATCH BY DISTRICTS

Species	Columbia River district		Coastal district	
FISH	*Pounds*	*Value*	*Pounds*	*Value*
Carp	8,500	$170		
Flounders:				
"Sole"	9,455	236	24,957	$440
Other			32,406	433
Halibut	181,030	10,540	229,412	13,226
Herring			30,038	302
"Lingcod"	107,794	1,684	105,708	2,227
Perch			15,322	193
Pilchard			7,090	71
Rockfishes	11,961	259	36,748	600
Sablefish	16,181	410	7,635	197
Salmon:				
Blueback, red or sockeye	104,849	8,913		
Chinook or king	11,500,763	699,388	1,622,660	94,912
Chum or keta	517,884	6,751	656,449	7,877
Humpback or pink	1,626	32	3,041	152
Silver or coho	1,719,855	75,420	3,212,238	113,720
Shad	127,322	2,547	233,422	3,501
Smelt	540,968	11,798	4,351	157
Steelhead trout	1,072,819	55,059	283,602	18,321
Striped bass			24,021	1,038

Fisheries of Oregon, 1933—Continued

CATCH: BY DISTRICTS—Continued

Species	Columbia River district		Coastal district	
FISH—continued	*Pounds*	*Value*	*Pounds*	*Value*
Sturgeon	45,553	$1,105	6,176	$179
Tuna, albacore			1,980	119
Total	15,966,560	874,312	6,537,256	257,665
SHELLFISH				
Crabs			1,838,040	55,996
Crawfish	99,000	9,900		
Clams:				
Razor			46,347	6,621
Mixed			15,965	950
Oysters:				
Japanese, market			25,200	1,800
Native, market			4,550	2,600
Total	99,000	9,900	1,930,102	67,967
Grand total	16,065,560	884,212	8,467,358	325,632

Fisheries of the Columbia River district of Oregon, 1933

OPERATING UNITS: BY GEAR

Item	Haul seines	Gill nets		Lines		Pound nets	Dip nets	Traps, crawfish	Total, exclusive of duplication
		Drift, salmon	Set, salmon	Trawl and set	Troll				
Fisherman:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels				8	34				42
On boats and shore	430	1,176	52	37	160	38	140	25	2,011
Total	430	1,176	52	45	194	38	140	25	2,053
Vessels, motor				2	19				21
Net tonnage				34	179				213
Boats:									
Motor	18	823	46	35	132	20	5	21	1,079
Other	32		6	2		9		4	51
Apparatus:									
Number	32	823	122	342	755	35	140	1,500	
Length, yards	15,135								
Square yards		2,588,335	32,330						
Hooks				10,450	3,397				

CATCH: BY GEAR

Species	Haul seines		Gill nets				Lines	
			Drift		Set		Trawl and set	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Carp	8,500	$170						
Flounders, "sole"							9,455	$236
Halibut							171,771	10,108
"Lingcod"							47,157	981
Rockfishes							11,961	259
Sablefish							16,181	410
Salmon:								
Blueback, red or sockeye	10,012	851	46,185	$3,926	27,224	$2,314		
Chinook or king	974,608	58,282	8,351,281	499,407	87,452	4,985		
Chum or keta	55,296	691	422,102	5,530	966	13		
Silver or coho	69,284	2,563	272,597	11,040	4,180	146		
Shad	11,477	230	114,309	2,286	460	9		
Smelt			511,054	11,499				
Steelhead trout	349,820	17,491	565,846	29,537	15,695	800		
Sturgeon	441	12	32,612	725	2,410	72	8,008	240
Total	1,479,438	80,290	10,315,986	563,950	138,387	8,339	264,533	12,234

Fisheries of the Columbia River district of Oregon, 1933—Continued

CATCH: By gear—Continued

Species	Lines		Pound nets		Dip nets		Traps	
	Troll							
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Halibut	9,259	$432						
"Lingcod"	60,637	703						
Salmon:								
Blueback, red or sockeye			10,277	$874	11,151	$948		
Chinook or king	1,329,163	98,491	307,559	18,392	450,700	19,831		
Chum or keta			38,272	501	1,248	16		
Humpback or pink	1,626	32						
Silver or coho	1,247,312	56,628	123,209	4,928	3,273	115		
Shad			1,076	22				
Smelt					29,914	299		
Steelhead trout	160	8	121,298	6,223	20,000	1,000		
Sturgeon			333	9	1,749	47		
Total	2,648,157	156,294	602,024	30,949	518,035	22,256		
SHELLFISH								
Crawfish							99,000	$9,90
Grand total	2,648,157	156,294	602,024	30,949	518,035	22,256	99,000	9,90

Fisheries of the coastal district of Oregon, 1933

OPERATING UNITS: By gear

Item	Haul seines	Gill nets		Lines		Otter trawls	Traps, crab	Tongs and rakes	Shovels	Total exclusive of duplication
		Drift, salmon	Set, salmon	Trawl and set	Troll					
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:										
On vessels				20	10	7				
On boats and shore	5	631	374	18	130		278	8	171	1,41
Total	5	631	374	38	140	7	278	8	171	1,44
Vessels, motor				5	6	2				
Net tonnage				66	46	24				1
Boats:										
Motor	2	485	215	12	97		250	2		9
Other	2		132				28	2		1
Apparatus:										
Number	2	485	750	915	515	2	8,340	8	171	
Length, yards	317									
Square yards		638,260	114,000							
Yards at mouth						40				
Hooks				19,775	2,317					

CATCH: By gear

Species	Haul seines		Gill nets		Lines			
					Trawl and set		Troll	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Valu*
Flounders:					12,386	$248	188	
"Sole"					5,969	96		
Other	3,417	$51	5,063	$75	213,733	12,407	5,122	
Halibut								
Herring	16,732	167	13,306	135				
"Lingcod"					52,780	1,148	27,459	
Perch	9,142	138	6,180	55				
Pilchard	7,090	71						
Rockfishes			830	12	31,637	514	1,914	
Sablefish					7,210	184		
Salmon:								
Chinook or king			1,243,962	65,184			378,698	29,
Chum or keta			656,449	7,877				
Humpback or pink							3,041	
Silver or coho			2,099,736	66,772			1,112,502	46,
Shad			233,422	3,501				
Smelt	81	3	4,270	154				
Steelhead trout			283,602	18,321				
Striped bass			24,021	1,038				
Sturgeon			5,910	168				
Tuna, albacore							1,980	
Total	36,462	430	4,576,751	163,292	323,715	14,597	1,530,904	77,

Fisheries of the coastal district of Oregon, 1933—Continued

CATCH: BY GEAR—Continued

Species	Otter trawls		Traps		Tongs and rakes		Shovels	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders:								
"Sole"	12,383	$189						
Other	17,957	211						
Halibut	10,557	528						
"Lingcod"	25,469	541						
Rockfishes	2,367	43						
Sablefish	425	13						
Sturgeon	266	11						
Total	69,424	1,536						
SHELLFISH								
Crabs	880	46	1,837,160	$55,950				
Clams:								
Razor [1]							46,347	$6,621
Mixed [2]							15,965	950
Oysters:								
Japanese, market					25,200	$1,800		
Native, market					4,550	2,600		
Total	880	46	1,837,160	55,950	29,750	4,400	62,312	7,571
Grand total	70,304	1,582	1,837,160	55,950	29,750	4,400	62,312	7,571

[1] Razor clam poundage is the weight of the steam shucked cleaned meat, which is 42 percent of the round weight.

[2] Mixed clams consist principally of eastern soft-shelled clams. The weight shown is the fresh-shucked weight which is 21 percent of the round weight.

CALIFORNIA

Fisheries of California, 1933

CATCH: BY DISTRICTS

Species	Northern district		San Francisco district		Monterey district	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies	70	$2	185,095	$2,134	90,758	$1,161
Barracuda					29	3
Carp			57,856	610		
Catfish			172,463	19,849		
Cod [1]			5,534,600	49,670		
Flounders:						
"California halibut"			23,812	2,005	22,065	1,574
"Sole"	3,091,061	128,462	3,973,339	163,847	569,440	21,572
Other	446,594	16,723	532,307	21,947	81,997	2,689
Grayfish	3,360	17	86,456	432	6,470	34
Hake	3,440	34	25,991	260	2,642	27
Halibut	321,664	16,459				
Hardhead			156,687	7,684		
Herring			544,995	2,725	51,595	236
Horse mackerel					33,479	1,682
Kingfish			13,442	538	189,285	5,308
"Lingcod"	491,493	14,432	396,368	13,858	188,827	6,798
Mackerel			218	6	1,352,754	19,789
Perch	4,261	106	110,675	4,376	55,399	1,539
Pilchard or sardine			62,214,480	195,674	254,311,594	784,486
Pompano			59	27	95	43
Rock bass			5	1	10	1
Rockfishes	486,384	18,590	654,513	22,417	1,644,126	45,674
Sablefish	483,089	12,095	121,857	3,047	238,515	3,516
Salmon	3,356,047	185,769	643,854	34,023	569,859	35,902
Sculpin			1,961	40	2,070	21
Sea bass:						
Black					30	1
White			1,306	146	5,514	409
Shad			1,157,484	27,852	5	1
Skates	5,623	56	138,222	1,382	25,642	337
Smelt	32,630	1,007	316,089	12,676	117,054	4,907
Splittail			17,509	199		

[1] The catch of cod was taken off Alaska.

NOTE.—The catch of pilchard by floating reduction plants off the coast of California is not included.

Fisheries of California, 1933—Continued

CATCH: BY DISTRICTS—Continued

Species	Northern district		San Francisco district		Monterey district	
FISH—continued	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Squawfish			727	$25		
Striped bass			485,926	26,764		
Suckers			14,187	147		
Tomcod	438	$9	291	6		
Tuna and tunalike fishes:						
Albacore					407	$43
Bonito					10	1
Whitebait	49,460	1,736	44,682	1,372	1,609	89
Other fish	91,663	1,208	34,682	374	11,017	244
Total	8,867,277	396,705	77,662,138	616,113	259,572,297	938,087
SHELLFISH						
Crabs	126,904	7,728	2,893,546	236,457	188,044	8,067
Shrimp			2,087,952	31,320	798	178
Abalone					444,300	69,732
Clams:						
Hard	113	14	16,522	4,245		
Pismo					6,524	1,398
Soft	6,557	646	56,277	12,744		
Octopus	337	25	8,590	602	22,535	1,512
Oysters, market:						
Eastern			58,419	21,907		
Japanese					26,824	6,706
Native			1,218	558		
Squid					769,695	13,007
Total	133,911	8,413	5,122,524	307,833	1,458,720	100,600
WHALE PRODUCTS						
Whale meat			2,214,000	43,242		
Whale oil			2,116,890	41,025		
Total			4,330,890	84,267		
Grand total	9,001,188	405,118	87,115,552	1,008,213	261,031,017	1,038,687

Species	San Pedro district					
	Off California		Off Latin America		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies	41,369	$558			41,369	$558
Barracuda	2,433,934	93,661	126,263	$10,925	2,560,197	104,586
Cabrilla			8,275	233	8,275	233
Flounders:						
"California halibut"	780,521	48,722	91	8	780,612	48,730
"Sole"	669,214	18,514			669,214	18,514
Other	13,812	1,819			13,812	1,819
Flyingfish	16,396	501			16,396	501
Grayfish	318,394	7,880	61	2	318,455	7,882
Hake	5,466	40			5,466	40
Herring	190	8			190	8
Horse mackerel	976,771	10,233			976,771	10,233
Kingfish	359,896	6,273			359,896	6,273
"Lingcod"	12,267	272			12,267	272
Mackerel	58,922,597	344,828			58,922,597	344,828
Marlin	6,253	257			6,253	257
Mullet	1,374	68	423	17	1,797	85
Perch	44,218	2,476	112	11	44,330	2,487
Pilchard or sardine	192,738,816	521,607			192,738,816	521,607
Pompano	3,693	1,190			3,693	1,190
Rock bass	200,868	9,479	12,992	829	213,860	10,308
Rockfishes	1,401,711	46,729	7,099	218	1,408,810	46,947
Rudderfish	12,813	537			12,813	537
Sablefish	487,508	13,093			487,508	13,093
Salmon	48	7			48	7
Sculpin	56,356	3,393			56,356	3,393
Sea bass:						
Black	46,047	2,128	172,116	7,798	218,163	9,926
White	632,539	37,353	39,390	2,528	671,929	39,881
Sheepshead	50,924	1,393			50,924	1,393
Skates	23,524	413			23,524	413
Smelt	240,943	8,104			240,943	8,104
Spanish mackerel			3,012	145	3,012	145
Swordfish	575,849	50,549			575,849	50,549
Tai			138	4	138	

NOTE.—The catch of pilchard by floating reduction plants off the coast of California is not included.

Fisheries of California, 1933—Continued

CATCH: BY DISTRICTS—Continued

Species	San Pedro district					
	Off California		Off Latin America		Total	
FISH—continued						
Tuna and tunalike fishes:	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Albacore	80	$10			80	$10
Bluefin	316,914	18,429	236,276	$10,504	553,190	28,933
Bonito	919,999	12,981	186,819	4,440	1,106,818	17,421
Skipjack or striped tuna	10	1	5,375,294	193,248	5,375,304	193,249
Yellowfin			16,029,485	708,092	16,029,485	708,092
Whitefish	39,120	2,147	5,228	263	44,348	2,410
Yellowtail	245,890	8,766	430,875	14,018	676,765	22,784
Other fish	5,992	235			5,992	235
Total	262,602,316	1,274,654	22,633,949	953,283	285,236,265	2,227,937
SHELLFISH						
Crabs	14,818	682			14,818	682
Sea crawfish or spiny lobster	306,687	42,775	21,298	3,731	327,985	46,506
Abalone	106,968	10,701			106,968	10,701
Clams:						
Hard	4,405	1,062			4,405	1,062
Pismo	19,948	4,370			19,948	4,370
Mussels	47	23			47	23
Octopus	59	6			59	6
Squid	54,848	932			54,848	932
Total	507,780	60,551	21,298	3,731	529,078	64,282
Grand total	263,110,096	1,335,205	22,655,247	957,014	285,765,343	2,292,219

Species	San Diego district					
	Off California		Off Latin America		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Barracuda	478,189	$15,506	34,547	$2,506	512,736	$18,012
Cabrilla			76,337	2,573	76,337	2,573
Corbina			290	23	290	23
Flounders:						
"California halibut"	78,431	5,435	84,305	5,584	162,736	11,019
"Sole"	3,916	331			3,916	331
Other	22	1			22	1
Grayfish	56,289	320			56,289	320
Herring	4,665	62			4,665	62
Horse mackerel	600	6			600	6
Kingfish	1,643	34			1,643	34
Mackerel	9,338,361	55,504	969	21	9,339,330	55,525
Marlin	606	24			606	24
Mullet	19,827	800	2,390	116	22,217	916
Perch	349	14			349	14
Pilchard or sardine	532,591	3,350			532,591	3,350
Pompano	32	10	710	56	742	66
Rock bass	129,871	4,883	4,646	239	134,517	5,122
Rockfishes	556,964	18,174	36,813	1,417	593,777	19,591
Rudderfish	339	10			339	10
Sablefish	1,604	28			1,604	28
Sculpin	8,038	352			8,038	352
Sea bass:						
Black	73,505	2,611	157,596	5,516	231,101	8,127
White	188,783	8,518	295,560	19,546	484,343	28,064
Sheepshead	7,685	223			7,685	223
Skates	700	8			700	8
Smelt	22,726	736	260	13	22,986	749
Spanish mackerel			1,185	46	1,185	46
Swordfish	234,787	17,685	40,063	2,844	274,850	20,529
Tuna and tunalike fishes:						
Bluefin	7,302	419			7,302	419
Bonito	1,047,235	20,854	98,136	1,956	1,145,371	22,810
Skipjack or striped tuna			11,312,004	419,842	11,312,004	419,842
Yellowfin	6,867	431	35,039,278	1,566,308	35,046,145	1,566,739
Whitefish	42,108	1,673	8,597	347	50,705	2,020
Yellowtail	987,396	22,517	2,234,727	42,335	3,222,123	64,852
Other fish	300	12	729	37	1,029	49
Total	13,831,731	180,531	49,429,142	2,071,325	63,260,873	2,251,856
SHELLFISH						
Sea crawfish or spiny lobster	73,788	10,578	648,132	87,461	721,920	98,039
Turtles			2,901	125	2,901	125
Total	73,788	10,578	651,033	87,586	724,821	98,164
Grand total	13,905,519	191,109	50,080,175	2,158,911	63,985,694	2,350,020

Fisheries of California, 1933—Continued

CATCH: BY WATERS

Species	Off California [1]		Off Latin America	
FISH	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies	317,292	$3,855		
Barracuda	2,912,152	109,170	160,810	$13,431
Cabrilla			84,612	2,806
Carp	57,856	610		
Catfish	172,463	19,849		
Cod [1]	5,534,600	49,670		
Corbina			290	23
Flounders:				
"California halibut"	904,829	57,736	84,396	5,592
"Sole"	8,306,970	332,726		
Other	1,074,732	43,179		
Flyingfish	16,396	501		
Grayfish	470,969	8,683	61	2
Hake	37,539	361		
Halibut	321,664	16,459		
Hardhead	156,687	7,684		
Herring	601,445	3,031		
Horse mackerel	1,010,850	11,921		
Kingfish	564,266	12,153		
"Lingcod"	1,088,955	35,360		
Mackerel	69,613,930	420,127	969	21
Marlin	6,859	281		
Mullet	21,201	868	2,813	133
Perch	214,902	8,511	112	11
Pilchard or sardine	509,797,481	1,505,117		
Pompano	3,879	1,270	710	56
Rock bass	330,754	14,364	17,638	1,068
Rockfishes	4,743,698	151,584	43,912	1,635
Rudderfish	13,152	547		
Sablefish	1,332,573	31,779		
Salmon	4,569,808	255,701		
Sculpin	68,425	3,806		
Sea bass:				
Black	119,582	4,740	329,712	13,314
White	828,142	46,426	334,950	22,074
Shad	1,157,489	27,853		
Sheepshead	58,609	1,616		
Skates	193,711	2,196		
Smelt	729,442	27,430	260	13
Spanish mackerel			4,197	191
Splittail	17,509	199		
Squawfish	727	25		
Striped bass	485,926	26,764		
Suckers	14,187	147		
Swordfish	810,636	68,234	40,063	2,844
Tai			138	4
Tomcod	729	15		
Tuna and tunalike fish:				
Albacore	487	53		
Bluefin	324,216	18,848	236,276	10,504
Bonito	1,967,244	33,836	284,955	6,396
Skipjack or striped tuna	10	1	16,687,298	613,090
Yellowfin	6,867	431	51,068,763	2,274,400
Whitebait	95,751	3,197		
Whitefish	81,228	3,820	13,825	610
Yellowtail	1,233,286	31,283	2,665,602	56,353
Other fish	143,654	2,073	729	37
Total	622,535,759	3,406,090	72,063,091	3,024,608
SHELLFISH				
Crabs	3,223,312	252,934		
Sea crawfish or spiny lobster	380,475	53,353	669,430	91,192
Shrimp	2,088,750	31,498		
Abalone	551,268	80,433		
Clams:				
Hard	21,040	5,321		
Pismo	26,472	5,768		
Soft	62,834	13,390		
Mussels, sea	47	23		
Octopus	31,521	2,145		
Oysters, market:				
Eastern	58,419	21,907		
Japanese	26,824	6,702		
Native	1,218	558		

[1] The catch of cod was taken off Alaska.

NOTE.—The catch of pilchard by floating reduction plants off the coast of California is not included.

Fisheries of California, 1933—Continued

CATCH: By waters—Continued

Species	Off California		Off Latin America	
SHELLFISH—continued	*Pounds*	*Value*	*Pounds*	*Value*
Squid	824, 543	$13, 939		
Turtles			2, 901	$125
Total	7, 296, 723	487, 975	672, 331	91, 317
WHALE PRODUCTS				
Whale meat	2, 214, 000	43, 242		
Whale oil	2, 116, 890	41, 025		
Total	4, 330, 890	84, 267		
Grand total	634, 163, 372	3, 978, 332	72, 735, 422	3, 115, 925

Fisheries of the northern district of California, 1933

OPERATING UNITS: By gear

Item	Haul seines	Gill nets		Lines		Dip nets	Crab traps	Shovels	Total, exclusive of duplication
		Drift, salmon	Other	Set and hand	Troll				
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels				22	30				34
On boats and shore	21	203	18	67	230	11	21	15	455
Total	21	203	18	89	260	11	21	16	489
Vessels, motor				8	14				15
Net tonnage				78	116				132
Boats:									
Motor			15	50	202		17		202
Other	5	128							128
Apparatus:									
Number	5	128	15	265	1, 056	11	324	16	
Length, yards	1, 040								
Square yards		122, 131	11, 210						
Hooks				45, 560	4, 601				

Note—The catch by paranzella nets was made entirely by fishermen from the San Francisco district.

CATCH: By gear

Species	Haul seines		Gill nets		Lines			
					Set and hand		Troll	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies			70	$2				
Flounders:								
"Sole"					920	$13		
Other			3, 702	105				
Halibut					179, 470	9, 177	7, 999	$420
"Lingcod"					120, 829	2, 265	36, 022	455
Perch			4, 261	106				
Rockfishes					30, 608	609	511	6
Sablefish					372, 114	9, 321		
Salmon	18, 492	$850	423, 920	21, 192			2, 913, 635	163, 727
Smelt			26, 065	812				
Other fish					21, 272	503	383	5
Total	18, 492	850	458, 018	22, 217	725, 213	21, 888	2, 958, 550	164, 613
SHELLFISH								
Octopus					72	4		
Grand total	18, 492	850	458, 018	22, 217	725, 285	21, 892	2, 958, 550	164, 613

Note.—The catch of pilchard by floating reduction plants off the coast of California is not included.

Fisheries of the northern district of California, 1933—Continued

CATCH: BY GEAR—Continued

Species	Dip nets		Paranzella nets		Traps		Shovels	
FISH								
Flounders:	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
"Sole"			3,090,141	$128,449				
Other			442,892	16,618				
Grayfish			3,360	17				
Hake			3,440	34				
Halibut			134,195	6,862				
"Lingcod"			334,642	11,712				
Rockfishes			455,265	17,975				
Sablefish			110,975	2,774				
Skates			5,623	56				
Smelt	6,565	$195						
Tomcod			438	9				
Whitebait	49,460	1,736						
Other fish			70,008	700				
Total	56,025	1,931	4,650,979	185,206				
SHELLFISH								
Crabs			180	13	126,724	$7,715		
Clams:								
Hard							113	$14
Soft							6,557	646
Octopus			265	21				
Total			445	34	126,724	7,715	6,670	660
Grand total	56,025	1,931	4,651,424	185,240	126,724	7,715	6,670	660

NOTE.—The catch by paranzella nets was made entirely by fishermen from the San Francisco district.

Fisheries of the San Francisco district of California, 1933

OPERATING UNITS: BY GEAR

Item	Purse seines, sardine	Lampara and ring nets, sardine	Haul seines	Gill nets				Lines	
				Drift, salmon	Drift, sea bass	Drift, shad	Other	Set and hand	Troll
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	103	89					3	95	31
On boats and shore		71	3	274	3	338	82	192	145
Total	103	160	3	274	3	338	85	287	176
Vessels:									
Motor	10	8					2	3	16
Net tonnage	445	98					21	36	225
Sail								2	
Net tonnage								824	
Total vessels	10	8					2	5	16
Total net tonnage	445	98					21	860	225
Boats:									
Motor		10		144	1	180	45	108	136
Other			1	8	1	8	7	47	
Apparatus:									
Number	10	18	1	152	2	188	91	1,257	992
Length, yards	3,287	6,165	165						
Square yards				464,138	1,060	627,655	127,602		
Hooks								140,349	5,066

Fisheries of the San Francisco district of California, 1933—Continued

OPERATING UNITS: By gear—Continued

Item	Fyke nets	Dip nets	Bag nets, shrimp	Paranzella nets	Beam trawls	Traps, crab	Harpoons, whaling	Rakes and tongs	Shovels	Total, exclusive of duplication
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels			22	76		2	16			388
On boats and shore	69	8	24		18	246		17	91	1,004
Total	69	8	46	76	18	248	16	17	91	1,392
Vessels:										
Steam							2			2
Net tonnage							41			41
Motor			5	16		2				41
Net tonnage			31	228		21				821
Sail										2
Net tonnage										824
Total vessels			5	16		2	2			45
Total net tonnage			31	228		21	41			1,686
Boats:										
Motor	37		6		18	244		6		564
Other	19							10	5	92
Apparatus:										
Number	2,591	8	11	8	18	4,808	2	17	91	
Length, yards			7,312							
Yards at mouth				133	120					

CATCH: By gear

Species	Purse seines		Lampara and ring nets		Haul seines	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies			175,780	$1,994		
Carp					44,333	$438
Flounders:						
"California halibut"			30	2		
Other			192	4		
Hardhead					138,840	6,724
Herring			3,420	17		
Kingfish			9,865	395		
"Lingcod"			153	5		
Mackerel			218	6		
Perch			272	10		
Pilchard or sardine	35,605,615	$115,200	26,604,950	80,435		
Pompano			59	27		
Rock bass			5	1		
Rockfishes			43	2		
Sea bass, white			46	4		
Shad			175	5		
Smelt			13,986	561		
Splittail					13,645	137
Suckers					13,934	139
Tomcod			40	1		
Whitebait			26,123	784		
Total	35,605,615	115,200	26,835,357	84,253	210,752	7,438

Fisheries of the San Francisco district of California, 1933—Continued

CATCH: BY GEAR—Continued

Species	Gill nets		Lines			
			Set and hand		Troll	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies	9,315	$140				
Carp	8,529	116	118	$2		
Catfish	141	17	2,341	235		
Cod			5,534,609	49,670		
Flounders:						
"California halibut"			574	46	351	$28
"Sole"			7,341	294		
Other	475	10	1,280	27		
Grayfish			17,155	86		
Herring	541,575	2,708				
"Lingcod"	83	3	295,763	10,352	1,009	20
Perch	108,599	4,294	1,284	51		
Pilchard or sardine	3,915	39				
Rockfishes			362,771	12,084	184	4
Sablefish			76,190	1,905		
Salmon	450,314	22,585			193,540	11,438
Sculpin			1,961	40		
Sea bass, white	1,260	142				
Shad	1,157,309	27,847				
Smelt	299,631	11,994				
Splittail	325	4				
Squawfish	545	19	88	3		
Striped bass	426,006	20,079	59,920	6,685		
Whitebait	16,991	510				
Other fish	36	1	1,251	25	25	1
Total	3,025,049	90,508	6,362,637	81,505	195,109	11,491
SHELLFISH						
Octopus			8,568	600		
Grand total	3,025,049	90,508	6,371,205	82,105	195,109	11,491

Species	Fyke nets		Dip nets		Bag nets	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Carp	4,876	$54				
Catfish	169,981	19,597				
Hardhead	17,847	960				
Smelt			2,472	$121		
Splittail	3,539	58				
Squawfish	94	3				
Suckers	253	8				
Whitebait			1,568	78		
Other fish	803	21				
Total	197,393	20,701	4,040	199		
SHELLFISH						
Shrimp					1,494,768	$22,422
Grand total	197,393	20,701	4,040	199	1,494,768	22,422

Species	Paranzella nets		Beam trawls		Traps	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders:						
"California halibut"	22,857	$1,929				
"Sole"	3,965,998	163,553				
Other	530,360	21,906				
Grayfish	69,301	346				
Hake	25,991	260				
Kingfish	3,577	143				
"Lingcod"	99,360	3,478				
Perch	520	21				
Rockfishes	291,515	10,327				
Sablefish	45,667	1,142				
Skates	138,222	1,382				
Tomcod	251	5				
Other fish	32,567	326				
Total	5,226,186	204,818				
SHELLFISH						
Crabs	24,366	1,991			2,869,180	$234,466
Shrimp			593,184	$8,898		
Octopus	22	2				
Total	24,388	1,993	593,184	8,898	2,869,180	234,466
Grand total	5,250,574	206,811	593,184	8,898	2,869,180	234,466

Fisheries of the San Francisco district of California, 1933—Continued

CATCH: BY GEAR—Continued

Species	Harpoons		Rakes and tongs		Shovels	
SHELLFISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Clams:						
Hard					16,522	$4,245
Soft					56,277	12,744
Oysters, market:						
Eastern			58,419	$21,907		
Native			1,218	558		
Total			59,637	22,465	72,799	16,989
WHALE PRODUCTS						
Whale meat	2,214,000	$43,242				
Whale oil	2,116,890	41,025				
Total	4,330,890	84,267				
Grand total	4,330,890	84,267	59,637	22,465	72,799	16,989

Fisheries of the Monterey district of California, 1933

OPERATING UNITS: BY GEAR

Item	Purse seines, sardine	Lampara and ring nets		Gill nets			Lines	
		Sardine	Squid	Drift, sea bass	Set, "California halibut"	Other	Set and hand	Troll
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	334	234	50			2		5
On boats and shore		136	139	8	20	79	229	195
Total	334	370	189	8	20	81	229	200
Vessels, motor	33	21	8			1		4
Net tonnage	1,293	229	67			20		46
Boats:								
Motor		12	26	4	11	39	153	182
Other						17	52	
Apparatus:								
Number	33	33	34	4	11	82	980	442
Length, yards	10,960	10,101	6,507					
Square yards				11,408	54,733	111,999		
Hooks							137,972	2,596

Item	Paranzella nets	Traps		Rakes and shovels	Abalone outfits	Total, exclusive of duplication
		Crab	Octopus			
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On vessels	4				56	538
On boats and shore	2	12	5	38	20	539
Total	6	12	5	38	76	1,077
Vessels, motor	1				12	60
Net tonnage	21				90	1,560
Boats:						
Motor	1	5	3	7	4	208
Other		5		14		63
Apparatus:						
Number	1	47	51	38	16	
Yards at mouth	17					

Fisheries of the Monterey district of California, 1933—Continued

CATCH: BY GEAR

Species	Purse seines		Lampara and ring nets		Gill nets		Lines—Set and hand	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies			90,643	$1,144	115	$17		
Barracuda			5	1	24	2		
Flounders:								
"California halibut"	62	$4	343	24	18,364	1,312	2,640	$188
"Sole"			135	5	6,507	244	33,420	1,253
Other			865	31	13,585	406	19,488	687
Grayfish							2,285	12
Hake							492	5
Herring			48,260	203	3,335	33		
Horse mackerel			31,198	1,567	549	28	1,732	87
Kingfish	80	2	44,581	1,252	94,444	2,650	47,867	1,344
"Lingcod"			175	6	3,525	127	164,698	5,943
Mackerel	255,933	3,744	790,217	11,559	921	14	305,683	4,472
Perch			18,617	532	25,433	714	11,049	277
Pilchard or sardine	198,802,431	618,279	55,496,755	166,108	12,408	99		
Pompano			68	31	27	12		
Rock bass					10	1		
Rockfishes			1,151	40	2,955	80	1,612,494	44,580
Sablefish							233,880	3,448
Sculpin							2,070	21
Sea bass:								
Black			30	1				
White			199	15	4,930	365	385	29
Shad					5	1		
Skates			490	7	2,604	36	14,978	207
Smelt	820	34	26,492	1,110	74,984	3,144	14,758	619
Tuna and tunalike fishes, bonito					10	1		
Whitebait			940	52	669	37		
Other fish			335	12			1,082	40
Total	199,059,326	622,063	56,551,499	183,700	265,404	9,323	2,469,001	63,212
SHELLFISH								
Crabs					160,394	6,881		
Shrimp					2	1		
Octopus							1,139	76
Squid	390	7	763,739	12,906	5,566	94		
Total	390	7	763,739	12,906	165,962	6,976	1,139	76
Grand total	199,059,716	622,070	57,315,238	196,606	431,366	16,299	2,470,140	63,288

Species	Lines, troll		Paranzella nets		Traps		Rakes and shovels		Abalone outfits	
FISH										
Flounders:										
"California halibut"	*Pounds* 184	*Value* $13	*Pounds* 472	*Value* $33	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
"Sole"			529,378	20,070						
Other			48,059	1,565						
Grayfish			4,185	22						
Hake			2,150	22						
Kingfish			2,313	60						
"Lingcod"	1,692	61	18,737	661						
Perch			300	16						
Rockfishes	2,127	65	25,399	909						
Sablefish			4,635	68						
Salmon	569,859	35,902								
Skates			7,570	87						
Tuna and tunalike fishes, albacore	407	43								
Other fish			9,600	192						
Total	574,269	36,084	652,798	23,705						
SHELLFISH										
Crabs			96	4	27,554	$1,182				
Shrimp					796	177				
Abalone									444,300	$69,732
Clams, Pismo							6,524	$1,398		
Octopus					21,396	1,436				
Oysters, market, Japanese							26,824	6,706		
Total			96	4	49,746	2,795	33,348	8,104	444,300	69,732
Grand total	574,269	36,084	652,894	23,709	49,746	2,795	33,348	8,104	444,300	69,732

Fisheries of the San Pedro district of California, 1933

OPERATING UNITS: BY GEAR

Item	Purse seines			Lampara and ring nets			Haul seines	Gill nets		
	Barracuda	Sardine	Tuna	Mackerel	Sardine	Other		Drift, barracuda	Set, sea bass	Other
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:										
On vessels	178	825	477	453	279	4		25	19	7
On boats and shore				77		25	2	44	59	38
Total	178	825	477	530	279	29	2	69	78	45
Vessels, motor	19	80	47	48	28	1		9	7	3
Net tonnage	533	3,439	2,252	699	501	5		56	69	30
Boats:										
Motor				10		6		17	22	16
Other							1		2	6
Apparatus:										
Number	19	80	47	58	28	7	1	26	31	30
Length, yards	7,942	30,240	27,129	23,086	12,437	2,220	214			
Square yards								240,237	167,487	26,441

Item	Trammel nets	Lines		Paranzella nets	Traps, lobster	Harpoons, swordfish	Rakes and shovels	Abalone outfits	Total, exclusive of duplication
		Set and hand	Troll						
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:									
On vessels	21	344		10	28	12		4	1,610
On boats and shore	78	338	67	14	174	69	42		666
Total	99	682	67	24	202	81	42	4	2,276
Vessels, motor	8	49		3	13	4		1	184
Net tonnage	51	2,825		41	108	30		9	6,862
Boats:									
Motor	30	215	64	5	99	30			315
Other	1	28			24		1		49
Apparatus:									
Number	39	1,520	274	4	4,791	34	42	1	
Square yards	259,508								
Yards at mouth				67					
Hooks		281,547	274						

CATCH OFF CALIFORNIA: BY GEAR

Species	Purse seines		Lampara and ring nets		Haul seines		Gill nets	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Anchovies			41,369	$558				
Barracuda	545,131	$26,167	770,415	23,802			789,924	$30,846
Flounders:								
"California halibut"	134	9	774	60			998	59
"Sole"			39	2			33	1
Other			9	1				
Flyingfish	150	5					16,246	496
Grayfish	1,890	59	3,207	87			69,875	1,573
Herring							100	8
Horse mackerel	51,094	718	914,124	9,290			3,933	46
Kingfish	145	3	193,915	3,397			235	4
"Lingcod"							30	1
Mackerel	756,439	4,558	54,189,423	306,124			191,516	1,445
Mullet					38	$2	1,336	66
Perch	896	35	32,298	1,941			6,926	307
Pilchard or sardine	139,550,505	380,056	53,187,182	141,526			1,129	25
Pompano			3,672	1,185			21	5
Rock bass	15,197	749	23,105	967			4,705	203

Fisheries of the San Pedro district of California, 1933—Continued

CATCH OFF CALIFORNIA: BY GEAR—Continued

Species	Purse seines		Lampara and ring nets		Haul seines		Gill nets	
FISH—continued	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Rockfishes	36	$2	134	$5			315	$13
Rudderfish	227	9	4,170	112			7,482	384
Sculpin			100	4				
Sea bass:								
Black	522	20	980	36			2,905	138
White	104,868	6,888	315,665	15,944			198,640	13,421
Sheepshead			50	2			152	4
Skates			90	1				
Smelt	1,142	34	163,804	5,377	15,036	$337	56,400	2,201
Tuna and tunalike fishes:								
Bluefin	277,967	16,077	38,879	2,346			52	5
Bonito	141,433	2,073	743,902	10,365			26,377	418
Yellowtail	141,079	5,068	30,215	943			895	42
Other fish	200	5	613	16			175	7
Total	141,589,055	442,535	110,658,134	524,091	15,074	339	1,380,490	51,718
SHELLFISH								
Squid	10,265	159	43,655	757			310	4
Grand total	141,599,320	442,694	110,701,789	524,848	15,074	339	1,380,800	51,722

Species	Trammel nets		Lines				Paranzella nets	
			Set and hand		Troll			
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Barracuda			177,607	$7,378	150,857	$5,468		
Flounders:								
"California halibut"	407,953	$27,701	43,655	2,891	175	11	326,832	$17,991
"Sole"	5,114	218	7,408	311			656,620	17,982
Other	274	17	12,904	1,770			625	31
Grayfish	51,177	1,268	190,271	4,854	80	2	1,894	37
Hake	150	1	5,316	39				
Horse mackerel			7,620	179				
Kingfish	100	2	165,350	2,864				
"Lingcod"	35	1	12,202	270				
Mackerel			3,784,946	32,699	273	2		
Perch	24	2	3,893	180				
Rock bass	93	4	116,212	5,551	337	13	169	10
Rockfishes	408	14	1,399,808	46,658			555	20
Rudderfish			934	32				
Sablefish			487,508	13,093				
Salmon					48	7		
Sculpin	269	12	54,489	3,273			60	5
Sea bass:								
Black	713	26	40,927	1,908				
White	648	61	12,668	1,037	50	2		
Sheepshead	1,019	29	16,399	463				
Skates	6,352	116	9,625	161			7,457	135
Smelt			4,561	155				
Swordfish			1,094	94				
Tuna and tunalike fishes:								
Albacore			40	4				
Bluefin			16	1				
Bonito	620	7	6,343	96	1,324	22		
Skipjack or striped tuna			10	1				
Whitefish			37,741	2,071				
Yellowtail	30	1	68,817	2,536	4,854	176		
Other fish	169	12	4,750	193	85	2		
Total	475,148	29,492	6,673,114	130,762	158,083	5,705	994,212	36,211
SHELLFISH								
Sea crawfish or spiny lobster	3,852	569						
Octopus			37	4				
Squid	618	12						
Total	4,470	581	37	4				
Grand total	479,618	30,073	6,673,151	130,766	158,083	5,705	994,212	36,211

Fisheries of the San Pedro district of California, 1933—Continued

CATCH OFF CALIFORNIA: BY GEAR—Continued

Species	Traps		Harpoons		Rakes and shovels		Abalone outfits	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Kingfish	151	$3						
Marlin			6,253	$257				
Perch	181	11						
Rock bass	41,050	1,982						
Rockfishes	455	17						
Sculpin	1,438	99						
Sheepshead	33,304	895						
Swordfish			574,755	50,455				
Tuna and tunalike fishes, albacore			40	6				
Whitefish	1,379	76						
Total	77,958	3,083	581,048	50,718				
SHELLFISH								
Crabs	14,818	682						
Sea crawfish or spiny lobster	302,835	42,206						
Abalone							106,968	$10,701
Clams:								
Hard					4,405	$1,062		
Pismo					19,948	4,370		
Mussels, sea					47	23		
Octopus	22	2						
Total	317,675	42,890			24,400	5,455	106,968	10,701
Grand total	395,633	45,973	581,048	50,718	24,400	5,455	106,968	10,701

CATCH OFF LATIN AMERICA: BY GEAR

Species	Purse seines		Lampara nets		Lines, set and hand		Traps	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Barracuda	117,572	$10,320			8,691	$605		
Cabrilla					8,275	233		
Flounders, "California halibut"	91	8						
Grayfish					61	2		
Mullet			423	$17				
Perch					112	11		
Rock bass	170	10			12,822	819		
Rockfishes					7,099	218		
Sea bass:								
Black	13,290	713			158,826	7,085		
White	325	46			39,065	2,482		
Spanish mackerel	410	8			2,602	137		
Tai					138	4		
Tuna and tunalike fishes:								
Bluefin	236,276	10,504						
Bonito	154,431	3,492			32,388	948		
Skipjack or striped tuna	3,006,823	92,730			2,368,471	100,518		
Yellowfin	2,802,603	113,912			13,226,882	594,180		
Whitefish	50	3			5,178	260		
Yellowtail	15,032	378			415,843	13,640		
Total	6,347,073	232,124	423	17	16,286,453	721,142		
SHELLFISH								
Sea crawfish or spiny lobster							21,298	$3,731
Grand total	6,347,073	232,124	423	17	16,286,453	721,142	21,298	3,731

Fisheries of the San Diego district of California, 1933

OPERATING UNITS: By gear

Item	Lampara and ring nets		Gill nets			Trammel nets	Lines		Traps, lobster	Harpoons, swordfish and turtle	Total, exclusive of duplication
	Mackerel	Sardine	Drift, barracuda	Set, sea bass	Other		Set and hand	Troll			
	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number
Fishermen:											
On vessels	133	41	3	3	------	3	639	------	15	27	710
On boats and shore	26	18	36	44	14	30	116	41	46	29	214
Total	159	59	39	47	14	33	755	41	61	56	924
Vessels, motor	14	4	1	1	------	1	73	------	5	7	81
Net tonnage	145	44	5	5	------	7	4, 503	------	47	70	4, 562
Boats:											
Motor	3	2	16	19	10	12	56	35	35	11	97
Other	------	------	------	1	2	------	------	------	------	------	2
Apparatus:											
Number	17	6	17	21	13	13	1, 006	181	1, 308	18	------
Length, yards	5, 610	2, 550	------	------	------	------	------	------	------	------	------
Square yards	------	------	137, 003	110, 061	17, 180	128, 713	------	------	------	------	------
Hooks	------	------	------	------	------	------	55, 418	181	------	------	------

CATCH OFF CALIFORNIA: By gear

Species	Purse seines		Lampara and ring nets		Gill nets		Trammel nets	
FISH	Pounds	Value	Pounds	Value	Pounds	Value	Pounds	Value
Barracuda	5, 609	$139	30, 738	$787	222, 154	$6, 797	------	------
Flounders:								
"California halibut"	------	------	------	------	28	2	76, 682	$5, 310
"Sole"	------	------	------	------	------	------	64	5
Other	------	------	------	------	------	------	22	1
Grayfish	------	------	------	------	26, 141	127	14, 348	99
Herring	------	------	------	------	4, 665	62	------	------
Horse mackerel	------	------	600	6	------	------	------	------
Kingfish	------	------	13	1	172	4	35	1
Mackerel	------	------	8, 187, 781	47, 716	95, 750	578	------	------
Mullet	------	------	------	------	19, 827	800	------	------
Perch	298	12	------	------	30	1	------	------
Pilchard or sardine	------	------	532, 269	3, 347	322	3	------	------
Pompano	------	------	32	10	------	------	------	------
Rock bass	------	------	1, 542	36	1, 212	45	3, 333	172
Rockfishes	------	------	------	------	102	4	154	6
Rudderfish	------	------	------	------	339	10	------	------
Sea bass:								
Black	------	------	180	4	3, 566	114	------	------
White	236	8	182	7	163, 790	7, 291	260	28
Sheepshead	------	------	------	------	------	------	39	1
Skates	------	------	------	------	------	------	700	8
Smelt	------	------	60	2	22, 396	724	------	------
Tuna and tunalike fishes:								
Bluefin	------	------	82	5	------	------	------	------
Bonito	------	------	281, 589	5, 627	81, 786	1, 604	168	2
Yellowtail	------	------	4, 689	87	2, 496	75	140	3
Total	6, 143	159	9, 039, 757	57, 635	644, 776	18, 241	95, 945	5, 636
SHELLFISH								
Sea crawfish or spiny lobster	------	------	------	------	------	------	1, 511	202
Grand total	6, 143	159	9, 039, 757	57, 635	644, 776	18, 241	97, 456	5, 838

Fisheries of the San Diego district of California, 1933—Continued

CATCH OFF CALIFORNIA: BY GEAR—Continued

Species	Lines				Traps		Harpoons	
	Set and hand		Troll					
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Barracuda	204, 799	$7, 186	14, 889	$597				
Flounders:								
"California halibut"	1, 721	123						
"Sole"	3, 852	326						
Grayfish	15, 310	92	490	2				
Kingfish	1, 341	26			82	$2		
Mackerel	1, 054, 830	7, 210						
Marlin							606	$24
Perch	21	1						
Rock bass	99, 211	3, 461			24, 573	1, 169		
Rockfishes	554, 932	18, 097			1, 776	67		
Sablefish	1, 604	28						
Sculpin	7, 914	347			124	5		
Sea bass:								
Black	69, 759	2, 493						
White	24, 299	1, 183	16	1				
Sheepshead	3, 224	64			4, 422	158		
Smelt	270	10						
Swordfish							234, 787	17, 685
Tuna and tunalike fishes:								
Bluefin	7, 220	414						
Bonito	570, 976	11, 377	112, 716	2, 244				
Yellowfin	6, 867	431						
Whitefish	42, 108	1, 673						
Yellowtail	971, 177	22, 155	8, 894	197				
Other fish	300	12						
Total	3, 641, 735	76, 709	137, 005	3, 041	30, 977	1, 401	235, 393	17, 709
SHELLFISH								
Sea crawfish or spiny lobster					72, 277	10, 376		
Grand total	3, 641, 735	76, 709	137, 005	3, 041	103, 254	11, 777	235, 393	17, 709

NOTE.—The catch by purse seines was made entirely by fishermen from the San Pedro district.

CATCH OFF LATIN AMERICA: BY GEAR

Species	Purse seines		Lampara and ring nets		Gill nets		Trammel nets	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Barracuda	1, 661	$168			1, 359	$92		
Flounders, "California halibut"							84, 261	$5, 581
Mullet			2, 227	$111	163	5		
Pompano			710	56				
Rock bass					338	10		
Sea bass:								
Black					11, 623	424		
White					175, 464	11, 082		
Smelt					260	13		
Tuna and tunalike fishes:								
Skipjack or striped tuna	4, 302	151						
Yellowfin	183, 206	7, 328						
Yellowtail	120	6			2, 318	45		
Total	189, 289	7, 653	2, 937	167	191, 525	11, 671	84, 261	5, 581

Fisheries of the San Diego district of California, 1933—Continued

CATCH OFF LATIN AMERICA: By gear—Continued

Species	Lines				Traps		Harpoons	
	Set and hand		Troll					
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Barracuda	24,654	$1,744	6,873	$502				
Cabrilla	76,337	2,573						
Corbina	290	23						
Flounders, "California halibut"	44	3						
Mackerel	969	21						
Rock bass	4,308	229						
Rockfishes	36,813	1,417						
Sea bass:								
Black	145,973	5,092						
White	120,096	8,464						
Spanish mackerel	1,185	46						
Swordfish							40,063	$2,844
Tuna and tunalike fishes:								
Bonito	98,136	1,956						
Skipjack or striped tuna	11,307,702	419,691						
Yellowfin	34,856,072	1,558,980						
Whitefish	8,597	347						
Yellowtail	2,231,814	42,274	475	10				
Other fish	729	37						
Total	48,913,719	2,042,897	7,348	512			40,063	2,844
SHELLFISH								
Sea crawfish or spiny lobster					648,132	$87,461		
Turtles							2,901	125
Total					648,132	87,461	2,901	125
Grand total	48,913,719	2,042,897	7,348	512	648,132	87,461	42,964	2,969

Note.—The catch by purse seines was made entirely by fishermen from the San Pedro district.

HALIBUT FISHERY OF THE PACIFIC COAST [11]

The halibut fishery of the Pacific coast, which is prosecuted by United States (including Alaska) and Canadian vessels, ranks as one of the foremost fisheries of that section. During 1933, the total catch of halibut by vessels of both nationalities amounted to 45,951,000 pounds, valued at $2,582,000. This is an increase of 6 percent in quantity and 48 percent in value as compared with the catch and its value in 1932. Of the total catch in 1933, 82 percent was taken by United States craft and 18 percent by Canadian craft. Considered according to ports of landing 48 percent was landed at ports in the State of Washington; 37 percent at Canadian ports; and 15 percent at ports in Alaska.

[11] These statistics were compiled from data collected by the International Fisheries Commission for Washington and British Columbia, and by Bureau agents for Alaska. The data for the Washington and Alaska landings, as well as those made by United States craft in British Columbia, are based on actual weight of the fares.

Halibut fishery of the Pacific coast, 1933

UNITED STATES OPERATING UNITS: By FLEET CLASSIFICATION

Item	Washington fleet	Alaska fleet	Total
Regular halibut vessels:			
Number	129	86	215
Net tonnage	3,712	1,578	5,290
Crew	885	451	1,336
Dories	143	86	229
Skates of lines	3,675	2,003	5,678
Vessels in other fisheries but landing 1 or more fares of halibut:			
Number	20	9	29
Net tonnage	432	79	511
Crew	110	33	143
Dories	20	9	29
Skates of lines	434	161	595
Regular halibut boats:			
Number	----------	27	27
Crew	----------	67	67
Skates of lines	----------	338	338
Boats in other fisheries but landing 1 or more fares of halibut:			
Number	1	85	86
Crew	3	135	138
Skates of lines	10	468	478

CATCH OF ALL SPECIES: By United States vessels and boats

Fleet classification	Landed in—						Total	
	Washington		British Columbia		Alaska			
WASHINGTON FLEET								
Regular vessels:	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Halibut	19,579,151	$1,277,314	2,035,711	$127,082	1,214,077	$63,622	22,828,939	$1,468,018
Sablefish	1,271,209	39,540	8,565	171	22,719	370	1,302,493	40,081
"Lingcod"	417,108	12,365	----------	----------	----------	----------	417,108	12,365
Rockfishes	180,333	6,286	----------	----------	----------	----------	180,333	6,286
Total	21,447,801	1,335,505	2,044,276	127,253	1,236,796	63,992	24,728,873	1,526,750
Other vessels and boats:								
Halibut	763,174	49,450	4,130	115	----------	----------	767,304	49,565
Sablefish	7,867	202	----------	----------	----------	----------	7,867	202
"Lingcod"	51,021	1,261	----------	----------	----------	----------	51,021	1,261
Rockfishes	26,649	753	----------	----------	----------	----------	26,649	753
Total	848,711	51,666	4,130	115	----------	----------	852,841	51,781
ALASKA FLEET								
Regular vessels:								
Halibut	1,772,835	103,741	6,355,421	352,269	4,186,346	196,628	12,314,602	652,638
Sablefish	1,166	23	4,738	95	64,892	1,664	70,796	1,782
"Lingcod"	2,757	109	----------	----------	----------	----------	2,757	109
Rockfishes	----------	----------	----------	----------	1,078	22	1,078	22
Total	1,776,758	103,873	6,360,159	352,364	4,252,316	198,314	12,389,233	654,551
Other vessels and boats:								
Halibut	12,061	926	362,903	16,738	1,379,345	56,060	1,754,309	73,724
Sablefish	----------	----------	----------	----------	7,155	126	7,155	126
Total	12,061	926	362,903	16,738	1,386,500	56,186	1,761,464	73,850
COMBINED FLEETS								
Regular vessels:								
Halibut	21,351,986	1,381,055	8,391,132	479,351	5,400,423	260,250	35,143,541	2,120,656
Sablefish	1,272,375	39,563	13,303	266	87,611	2,034	1,373,289	41,863
"Lingcod"	419,865	12,474	----------	----------	----------	----------	419,865	12,474
Rockfishes	180,333	6,286	----------	----------	1,078	22	181,411	6,308
Total	23,224,559	1,439,378	8,404,435	479,617	5,489,112	262,306	37,118,106	2,181,301
Other vessels and boats:								
Halibut	775,235	50,376	367,033	16,853	1,379,345	56,060	2,521,613	123,289
Sablefish	7,867	202	----------	----------	7,155	126	15,022	328

Halibut fishery of the Pacific coast, 1933—Continued

CATCH OF ALL SPECIES: BY UNITED STATES VESSELS AND BOATS—Continued

Fleet classification	Landed in—						Total	
	Washington		British Columbia		Alaska			
COMBINED FLEETS—con.								
Other vessels and boats—Continued.	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
"Lingcod"	51,021	$1,261					51,021	$1,261
Rockfishes	26,649	753					26,649	753
Total	860,772	52,592	367,033	$16,853	1,386,500	$56,186	2,614,305	125,631
All vessels and boats:								
Halibut	22,127,221	1,431,431	8,758,165	496,204	6,779,768	316,310	37,665,154	2,243,945
Sablefish	1,280,242	39,765	13,303	266	94,766	2,160	1,388,311	42,191
"Lingcod"	470,886	13,735					470,886	13,735
Rockfishes	206,982	7,039			1,078	22	208,060	7,061
Grand total	24,085,331	1,491,970	8,771,468	496,470	6,875,612	318,492	39,732,411	2,306,932

CATCH OF HALIBUT: BY UNITED STATES AND CANADIAN VESSELS AND BOATS

[Expressed in thousands of pounds and thousands of dollars; that is, 000 omitted]

Fleet classification	Landed in—						Total	
	Washington		British Columbia		Alaska			
WASHINGTON FLEET	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Regular halibut vessels	19,579	1,277	2,036	127	1,214	64	22,829	1,468
Other vessels and boats	763	49	4	(1)			767	49
Total	20,342	1,326	2,040	127	1,214	64	23,596	1,517
ALASKA FLEET								
Regular halibut vessels	1,773	104	6,355	353	4,187	196	12,315	653
Other vessels and boats	12	1	363	17	1,379	56	1,754	74
Total	1,785	105	6,718	370	5,566	252	14,069	727
COMBINED FLEETS								
Regular halibut vessels	21,352	1,381	8,391	480	5,401	260	35,144	2,121
Other vessels and boats	775	50	367	17	1,379	56	2,521	123
Total	22,127	1,431	8,758	497	6,780	316	37,665	2,244
British Columbia fleet	20	1	8,266	337			8,286	338
Grand total	22,147	1,432	17,024	834	6,780	316	45,951	2,582

[1] Less than $500.

VESSEL FISHERIES AT SEATTLE, WASH.

A total of 43,353,031 pounds of fishery products, valued at $2,443,235, were handled by Seattle wholesale dealers during 1933, exclusive of quantities received by transporting vessels or by rail from Alaska or Canada. This represents an increase of 3 percent in quantity and 36 percent in value as compared with the quantity and value of products handled during the preceding year. Of the total quantity handled 24,085,331 pounds, valued at $1,491,970, were landed by fishing vessels, a decrease of less than one-half of 1 percent in quantity but an increase of 41 percent in value as compared with the previous year. Receipts by wholesale dealers from sources other than Alaska or Canada or from vessels in the halibut fleet amounted to 19,267,700 pounds, valued at $951,265, which is an increase of 6 percent in quantity and 28 percent in value.

Fishery products landed by United States vessels at Seattle, Wash., 1933 [1]

BY FISHING GROUNDS

Fishing grounds	Trips	Halibut				Sablefish		"Lingcod"		Rockfishes		Total	
		No. 1		No. 2									
	Number	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
West of Cape Spencer	481	8,991,764	$654,231	5,873,579	$329,759	48,412	$1,002	7,497	$201	10,023	$266	14,931,275	$985,459
South of Cape Spencer	728	2,643,128	208,712	4,618,750	238,729	1,231,830	38,763	463,389	13,534	196,959	6,773	9,154,056	506,511
Total	1,209	11,634,892	862,943	10,492,329	568,488	1,280,242	39,765	470,886	13,735	206,982	7,039	24,085,331	1,491,970

[1] Halibut fleet.

BY MONTHS

January	11					500	31	42,758	2,335	32,305	1,762	75,563	4,128
February	127	1,684,671	81,731	785,300	23,875	6,061	113	29,718	569	6,540	129	2,512,290	106,417
March	134	1,503,943	100,068	873,718	44,399	20,516	570	19,024	577	10,337	346	2,427,538	145,960
April	138	849,249	68,268	1,093,953	56,106	13,977	342	75,588	1,542	17,966	392	2,050,733	126,650
May	156	1,443,628	92,786	1,378,880	58,272	4,381	62	73,767	1,262	18,195	304	2,918,851	152,686
June	150	1,323,451	93,308	1,438,703	59,144	72,427	2,089	56,030	1,024	25,998	484	2,916,609	156,049
July	110	1,031,763	82,008	1,229,595	68,171	101,355	2,804	19,290	383	9,569	191	2,391,572	153,557
August	135	1,216,477	101,300	1,548,180	100,646	108,636	2,889	24,750	586	19,463	396	2,917,506	205,817
September	81	1,032,970	99,328	874,149	64,415	276,630	8,331	3,244	98	3,358	79	2,190,351	172,251
October	90	1,042,703	99,743	914,469	71,517	369,963	12,227	18,469	635	4,517	183	2,350,121	184,305
November	59	506,037	44,403	355,382	21,943	292,189	9,755	42,598	1,498	14,158	623	1,210,364	78,222
December	18					13,607	552	65,650	3,226	44,576	2,150	123,833	5,928
Total	1,209	11,634,892	862,943	10,492,329	568,488	1,280,242	39,765	470,886	13,735	206,982	7,039	24,085,331	1,491,970

[1] This tabulation does not include fish received from Alaska or Canada or vessels in the halibut fleet.

Fishery products received by Seattle wholesale dealers, 1933: By months [1]

Species	January		February		March		April		May		June	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
lounders:												
"Sole"	66,006	$1,673	42,891	$1,080	60,227	$1,723	58,487	$1,673	52,514	$1,214	38,177	$1,043
Other	4,119	42	1,100	14	2,030	31	2,438	37	2,993	30	469	2
Halibut					4,991	249	4,316	215	8,910	624	60,846	3,353
Herring	3,395	53	13,455	73	149,800	1,321	23,200	116				
"Lingcod"	14,575	576	14,584	438	18,257	584	12,806	194	15,832	364	38,822	458
Perch	3,607	73	4,337	160	13,562	579	7,527	133	3,448	110	2,198	60
Rockfishes	18,917	479	15,767	571	9,836	287	10,136	227	8,677	259	9,956	241
Sablefish											5,510	193
Salmon:												
Blueback, red or sockeye									420	34	23,179	1,623
Chinook or king	1,543	123	11,843	1,421	108,101	12,856	312,533	26,685	237,928	18,567	857,590	58,478
Chum or keta									155	6	2,738	56
Humpback or pink												
Silver or coho	752	53	34	2					4,985	272	16,156	601
Smelt	14,781	512	10,328	227	33,050	641			3,685	254	23,510	1,122
Steelhead trout	6,175	556	7,886	774	4,934	588			10,005	600	15,970	928
Sturgeon											450	32
Crabs	47,683	3,280	55,350	3,474	50,799	3,220	43,869	2,858	75,544	3,955	44,385	2,452
Octopus	1,813	91	1,796	90	2,588	129	2,193	110	1,302	65	2,150	107
Total	183,366	7,511	179,371	8,324	458,175	22,208	477,505	32,248	426,396	26,354	1,142,106	70,749

Species	July		August		September		October		November		December		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Flounders:														
"Sole"	51,328	$1,505	25,816	$643	37,057	$1,202	47,525	$1,402	34,839	$1,143	33,670	$1,049	548,537	$15,350
Other	42	1	543	13	92	1	1,126	26	3,993	61	1,536	32	20,481	290
Halibut	23,380	1,403	30,563	1,377	413	31							133,419	7,252
Herring							1,365	14			653	19	191,868	1,596
"Lingcod"	12,822	252	29,844	471	21,439	571	12,253	457	32,852	1,179	9,565	409	233,651	5,953
Perch	2,129	60	4,984	128	3,899	97	4,470	120	3,766	75	4,454	178	58,379	1,773
Rockfishes	3,042	98	5,855	80	5,338	92	8,656	283	13,054	477	13,838	444	123,072	3,538
Sablefish			1,030	31	17,783	536	22,785	911	8,964	275			56,072	1,946
Salmon:														
Blueback, red or sockeye	289,843	23,999	64,652	4,235	12,622	917							390,716	30,808
Chinook or king	1,246,072	72,430	1,729,151	139,695	436,642	27,252	133,084	7,161	52,915	3,134			5,127,402	367,802
Chum or keta	6,548	196	35,417	696	190,763	5,095	2,958,158	82,334	788,669	23,276	2,278	32	3,984,726	111,691
Humpback or pink	27,740	560	901,840	20,793	1,590,280	42,307	3,805	91					2,523,665	63,751
Silver or coho	253,259	12,856	922,645	51,495	1,497,164	83,552	1,583,619	95,122	351,806	22,873	128,059	5,511	4,758,479	272,337
Smelt	30,798	1,234	37,647	1,632	30,445	1,879	26,603	1,506	26,678	1,573	20,889	1,452	258,414	12,032
Steelhead trout	81,972	6,437	51,479	3,909	25,190	1,484	5,256	297	6,770	540	20,965	1,715	236,602	17,828
Sturgeon	868	39	962	77			132	16					2,412	164
Crabs	26,400	1,619	28,581	1,611	18,700	1,144	58,458	3,202	91,581	6,145	53,550	3,040	[2] 594,900	36,000
Octopus	357	18	1,220	61	2,337	117	3,580	143	3,821	1,5 3	1,748	70	24,905	1,165
Total	2,056,600	122,707	3,872,229	226,947	3,890,164	166,277	4,870,875	193,085	1,419,708	60,904	291,205	13,951	19,267,700	951,254

[1] This tabulation does not include fish received from Alaska or Canada or vessels in the halibut fleet.

[2] 28,414 dozen.

LAKE FISHERIES[12]

The most recent catch statistics of the fisheries of the Great Lakes, including the international lakes of northern Minnesota, are those collected for the year 1932 and the most recent complete statistics on fisheries wholesale and manufacturing industries in the same region are for 1931. The yield of these fisheries in 1932 in the United States amounted to 83,744,389 pounds valued at $4,389,061 to the fishermen, representing a decrease of 9 percent in quantity and 27 percent in value as compared with the catch and its value in 1931. Detailed statistics of the operating units and catch of the Lake fisheries for 1932 appear in "Fishery Industries of the United States, 1933", Appendix I to the Report of the Commissioner of Fisheries for the fiscal year 1934 while data on wholesale and manufacturing industries for 1931 are published in "Fisheries Industries of the United States, 1932", Appendix III to the Report of the Commissioner of Fisheries for the fiscal year 1933. A summary of these fisheries appears in the following tables.

Lake fisheries, 1932 [1]

OPERATING UNITS: By States

Item	New York	Pennsylvania	Ohio	Michigan	Indiana	Illinois	Wisconsin	Minnesota	Total
	Number	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Fishermen:									
On vessels	85	112	96	824	15	48	525		1,705
On boats and shore:									
Regular	98	24	601	1,704	10	2	368	252	3,059
Casual	130		249	870	49	10	638	222	2,168
Total	313	136	946	3,398	74	60	1,531	474	6,932
Vessels:									
Steam	5	12	7	51	1	1	29		106
Net tonnage	122	298	227	926	22	13	756		2,364
Motor	12	9	12	189	3	13	154		392
Net tonnage	87	95	138	1,818	41	183	1,693		4,055
Total vessels	17	21	19	240	4	14	183		498
Total net tonnage	209	393	365	2,744	63	196	2,449		6,419
Boats:									
Motor	71	7	251	879	51	7	244	114	1,624
Other	115	10	300	555	33		218	304	1,535

[1] The statistics of the catch from 1929 to 1932, inclusive, include data on crawfish, mussels, pearls and slugs which were omitted in most of the surveys prior to 1929. Data on the catch in Wisconsin for 1929 and in subsequent years also are not strictly comparable with data for previous years due to a more complete method of collection adopted in the more recent statistics. Data for the years 1929 to 1932 are shown on the basis of round weight whereas they formerly included dressed or partially dressed fish in some cases.

[12] The statistics of the catch presented herewith were obtained principally from the records of the various State fishery agencies and from the Dominion Bureau of Statistics, Ottawa, Canada. The data for the operating units (fishermen, vessels, boats, and gear) of the United States were obtained largely by Bureau agents in a special canvass; although State records in several instances were very helpful in this work. In all cases the statistics collected are for the calendar year, except for Lake of the Woods, Rainy Lake, and Lake Namakan in Minnesota, which are for two seasons. For Lake of the Woods the seasons are from June 2 to Nov. 1 and Dec. 1 to Apr. 1 and for Rainy and Namakan Lakes from May 15 to Nov. 1 and Dec. 1 to Apr. 1. The catches for these two seasons, in the order named, have been combined to constitute a year The quantity of fish taken in these lakes between Jan. 1 and Apr. 1 is estimated at less than 3 percent of the total catch. For a clearer understanding of the statistics published in this section the reader is referred to the section in the latter part of the document entitled "Statistical survey procedure."

Lake fisheries, 1932—Continued

OPERATING UNITS: By States—Continued

Item	New York	Pennsylvania	Ohio	Michigan	Indiana	Illinois	Wisconsin	Minnesota	Total
Apparatus:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Haul seines	18		123	141			50		332
Length, yards	2,190		70,485	49,592			16,829		139,096
Gill nets:									
"Bull", 3 to 3 1/16 inches	584								584
Square yards	233,600								233,600
"Shoal", 2 1/4 to 3 7/8 inches	2,009	4,494	6,001	9,436	361	1,380	10,814	3,614	38,109
Square yards	314,913	741,840	919,050	2,160,607	105,750	288,640	3,070,299	1,196,403	8,797,502
"Shoal", 4 to 5 3/4 inches	2,751	3,684	563	39,453	440	1,122	14,366	1,818	64,197
Square yards	455,688	933,104	84,450	11,363,279	129,167	338,668	4,548,867	685,425	18,538,648
"Shoal", 6 to 9 3/4 inches	142			344	30		40		556
Square yards	26,464			41,549	6,300		6,600		80,913
"Shoal", 10 to 14 inches	72								72
Square yards	16,800								16,800
Trammel nets			222				4		226
Square yards			9,324				413		9,737
Lines:									
Hand				6					6
Hooks				7					7
Troll				41					41
Hooks				46					46
Trot	62			1,763		5	816	403	3,049
Hooks	14,050			670,630		500	236,350	38,930	960,460
Pound nets		45	18	1,395	7	1	294	73	1,833
Trap nets	173	8	3,875	3,365			5		7,426
Fyke nets	131		633	935			759	116	2,574
Crawfish pots							2,910		2,910
Crowfoot bars				315	40		5		360
Picks				124			2		126

CATCH: By States

Species	New York		Pennsylvania		Ohio	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blue pike	556,052	$27,136	1,606,925	$72,311	7,784,487	$311,660
Burbot	22,758	782	1,839	19	246,096	2,465
Carp	78,098	3,747	7,203	309	1,789,732	35,792
Catfish and bullheads	67,656	3,181	2,823	191	444,802	18,434
Cisco	27,464	2,746	82,836	8,283	49,915	5,990
Eels	43,536	1,306				
Goldfish					44,013	441
Lake herring	72,793	5,446				
Lake trout	26,975	3,453	1,051	126		
Mooneye			500	5	15,184	150
Pike or pickerel (jacks)	14,853	1,202			1,355	106
Rock bass	1,208	39				
Sauger					3,088,883	122,351
Sheepshead			13,859	328	2,069,439	41,395
Sturgeon	27,921	5,825	607	101		
Sucker "mullet"	108,467	4,329	13,824	275	1,094,792	21,893
Sunfish	8,084	256				
White bass	2,840	113	9,252	369	240,603	9,328
Whitefish, common	250,120	43,581	447,388	67,505	507,084	76,060
Yellow perch	102,296	6,556	329,676	15,694	9,239,058	329,999
Yellow pike	23,354	2,508	17,477	1,746	1,900,386	184,520
Total	1,434,475	112,206	2,535,260	167,262	28,515,829	1,160,584

Lake fisheries, 1932—Continued

CATCH: BY STATES—Continued

Species	Michigan		Indiana		Illinois	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	2,948	$59				
Buffalofish			1,910	$100		
Burbot	19,575	241	3,962	220		
Carp	2,141,439	72,206	3,320	119	200	$4
Catfish and bullheads	258,415	20,018				
Chubs	946,429	68,531	184,698	16,473	467,445	28,704
Goldfish	4,520	90				
Lake herring	3,442,460	86,099	123,050	5,076	85,580	3,444
Lake trout	6,813,110	630,361	98,391	8,307	280,605	21,877
Pike or pickerel (jacks)	60,584	4,813				
Rock bass	16,292	605				
Sauger	142,798	6,705				
Sheepshead	75,039	2,257				
Smelt	22,004	660				
Steelhead trout			4,100	650		
Sucker "mullet"	3,810,061	85,206	2,630	85		
Whitefish:						
Common	7,787,861	865,750	9,210	858	3,240	360
Menominee	141,598	13,895				
Yellow perch	1,006,324	65,955	23,238	1,831	47,715	3,573
Yellow pike	1,759,108	213,474	6,430	793		
Mussel shells [2]	1,678,984	23,181	170,000	2,210		
Pearls and slugs [2]		1,454		170		
Total	30,129,549	2,161,560	630,339	36,892	884,785	57,962

Species	Wisconsin		Minnesota		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blue pike					9,947,464	$411,107
Bowfin					2,948	59
Buffalofish					1,910	100
Burbot	36,841	$553	45	$1	331,116	4,281
Carp	256,707	5,789	6,870	132	4,283,569	118,098
Catfish and bullheads	50,256	3,528	9,412	455	833,364	45,807
Chubs	2,430,070	134,014	27,870	550	4,056,512	248,272
Cisco					160,215	17,019
Crappie			1,018	193	1,018	193
Eels					43,536	1,306
Goldfish					48,533	531
Lake herring	2,839,056	26,941	5,123,435	54,251	11,686,374	181,257
Lake trout	2,909,113	208,185	532,467	47,282	10,661,712	919,591
Mooneye					15,684	155
Pike or pickerel (jacks)	76,178	4,790	219,586	5,413	372,556	16,324
Rock bass					17,500	644
Sauger			215,898	6,163	3,447,579	135,219
Sheepshead	167	6			2,158,504	43,986
Smelt	75,803	2,653			97,807	3,313
Steelhead trout	950	124			5,050	774
Sturgeon			1,384	355	29,912	6,281
Sucker "mullet"	1,042,315	23,998	120,871	1,470	6,192,360	137,256
Sunfish					8,084	256
Tullibees			1,296,668	16,104	1,296,668	16,104
White bass					252,695	9,810
Whitefish:						
Common	548,739	36,314	176,862	11,214	9,730,504	1,101,642
Menominee	89,108	3,219	1,968	89	232,674	17,203
Yellow perch	682,563	41,633	41,630	1,661	11,472,500	466,902
Yellow pike	3,365	472	731,330	53,820	4,441,450	457,333
Crawfish	19,677	984			19,677	984
Mussel shells [2]	45,930	239			1,894,914	25,630
Pearls and slugs [2]						1,624
Total	11,106,838	493,442	8,507,314	199,153	83,744,389	4,389,061

[2] From streams tributary to Lakes Michigan, Huron, and Erie.

Industries related to the fisheries of the Lake States

OPERATING UNITS SALARIES, AND WAGES, 1931

Item	New York	Pennsylvania	Ohio	Michigan	Indiana	Illinois	Wisconsin	Minnesota	Total
Transporting:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Persons engaged			15	4					19
Vessels, motor			8	1					9
Net tonnage			88	32					120
Wholesale and manufacturing:									
Establishments	16	8	41	57	3	55	35	15	230
Persons engaged:									
Proprietors	15	14	58	67	3	26	33	9	225
Salaried employees	22	7	63	54	1	249	48	27	471
Wage earners:									
Average for season	69	58	249	438	4	352	275	61	1,506
Average for year	54	53	215	193	4	318	160	47	1,034
Paid to salaried employees	$36,516	$24,225	$201,954	$157,875	$5,500	$765,402	$109,407	$49,010	$1,349,889
Paid to wage earners	$58,062	$59,860	$261,908	$183,872	$5,500	$479,437	$167,271	$44,640	$1,260,550
Total salaries and wages	$94,578	$84,085	$463,862	$341,747	$11,000	$1,244,839	$276,678	$93,650	$2,610,439
Fishermen manufacturing	2	2		37	3	12	50		106

PRODUCTS MANUFACTURED

Item	New York		Pennsylvania		Ohio		Michigan	
By manufacturing establishments:	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Chubs, smoked ..... pounds	[1]	[1]			[1]	[1]	269,800	$67,591
Eels, smoked ..... do	[1]	[1]						
Lake herring:								
Salted ..... do							2,052,300	52,433
Smoked ..... do	[1]	[1]			[1]	[1]	[1]	[1]
Lake trout, smoked ..... do					[1]	[1]	21,245	4,570
Pike:								
Fresh fillets [3] ..... do	284,678	$66,298	179,610	$36,558	1,244,370	$232,285		
Frozen fillets [3] ..... do	68,673	15,211	61,136	11,827	111,079	19,969		
Salmon, smoked ..... do	[1]	[1]			115,000	24,200	[1]	[1]
Sturgeon, smoked ..... do	[1]	[1]			12,150	8,135		
Tullibee, smoked ..... do	[1]	[1]			142,500	28,230		
Whitefish, smoked ..... do	[1]	[1]			44,500	9,780	18,579	4,255
Yellow perch:								
Fresh fillets [3] ..... do	12,161	2,895	61,045	13,756	520,166	100,989		
Frozen fillets [3] ..... do	[1]	[1]	4,000	770	81,731	15,744		
Unclassified products:								
Fillets, fresh and frozen [3] ..... pounds	[4]	[4]	[4]	[4]	[5] 121,880	[5] 19,376		
Smoked ..... do					[6] 90,000	[6] 24,440	[4]	[4]
Miscellaneous [9]	[10] 298,000	[10] 70,440	[11] 770	[11] 118			[12] 25,085	[12] 4,692
Total	663,512	154,844	306,561	63,029	2,483,376	483,148	2,387,009	133,541

[1] The production of this item is included under "Unclassified products."
[3] Data are for 1933.
[4] The production of this item is included under "Miscellaneous."
[5] Includes fresh fillets of lake trout and whitefish; and fresh and frozen fillets of sheepshead and white bass.
[6] Includes smoked carp, chubs, lake herring, lake trout, paddlefish, or spoonbill cat and sablefish.
[9] Both 1931 and 1933 data are included in these items.
[10] Includes smoked chubs, ciscoes, eels, lake herring, salmon, sturgeon, tullibees, and whitefish; and frozen fillets of yellow perch.
[11] Includes fresh fillets of sheepshead and white bass.
[12] Includes smoked buffalofish, butterfish, carp, lake herring, sablefish, salmon, and whitefish; and pickled sea herring.

Industries related to the fisheries of the Lake States—Continued

PRODUCTS MANUFACTURED—Continued

Item	New York		Pennsylvania		Ohio		Michigan	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
By fishermen:								
Chubs, smoked.....pounds							17,700	$5,040
Lake herring:								
Salted.....do							249,600	6,911
Smoked.....do							6,250	1,222
Lake trout, smoked.....do							550	153
Sturgeon roe, salted.....do	45	$52	50	$50				
Whitefish, smoked.....do							5,500	1,290
Total	45	52	50	50			279,600	14,616
Grand total	663,557	154,896	306,611	63,079	2,483,376	$483,148	2,666,609	148,157

Item	Indiana		Illinois		Wisconsin		Minnesota	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
By manufacturing establishments:								
Chubs, smoked..pounds	[2]	[2]	[2] 905,476	[2] $218,931	665,562	$119,346	[1]	[1]
Eels, smoked.....do			17,804	4,483				
Lake herring:								
Salted.....do					923,350	17,906		
Smoked.....do			[1]	[1]	456,832	22,529	[1]	[1]
Lake trout, smoked..do	[2]	[2]	[2] 13,803	[2] 3,534	160,290	28,847	[1]	[1]
Pike:								
Fresh fillets [3]...do			984,927	202,965	[1]	[1]		
Frozen fillets [3]..do			[1]	[1]				
Salmon, smoked....do			636,965	161,866	37,360	6,364	[1]	[1]
Sturgeon, smoked...do			[1]	[1]				
Tullibee, smoked...do			325,536	65,165	[1]	[1]	[1]	[1]
Whitefish, smoked..do			[1]	[1]	100,267	19,840	[1]	[1]
Yellow perch:								
Fresh fillets [3]...do			103,241	24,077	63,500	13,715		
Unclassified products:								
Fillets, fresh and frozen [3]....pounds			[6] 109,218	[6] 20,171	[7] 55,000	[7] 10,100		
Smoked.....do			[4]	[4]	[4]	[4]	[4]	[4]
Miscellaneous [9]			[10] 2,713,986	[13] 49,240		[14] 34,253	[15] 170,250	[15] $33,664
Total			5,810,956	750,432		272,900	170,250	33,664
By fishermen:								
Chubs, smoked..pounds	42,200	$10,550	53,000	10,600				
Lake herring, salted..do					1,027,000	25,675		
Lake trout, smoked..do	8,450	2,113						
Whitefish, smoked..do	750	188						
Total	51,400	12,851	53,000	10,600	1,027,000	25,675		
Grand total	51,400	12,851	5,863,956	761,032		298,575	170,250	33,664

[1] The production of this item is included under "Unclassified."
[2] A small amount of smoked schub and lake trout produced in Indiana is included with Illinois.
[3] Data are for 1933.
[4] The production of this item is included under "Miscellaneous."
[6] Includes fresh fillets of lake trout, sheepshead, white bass, and whitefish; and frozen fillets of pike.
[7] Includes fresh fillets of pike, lake herring, and lake trout.
[9] Both 1931 and 1933 data are included in these items.
[10] Includes smoked buffalofish, butterfish, carp, flounders, lake herring, mackerel, sablefish, shad, sturgeon, and whitefish; and pickled sea herring.
[14] Includes pickled sea herring, smoked tullibees, spiced alewives, canned whitefish caviar, and musselshell products.
[15] Includes smoked chubs, lake herring, lake trout, salmon, suckers, tullibees, and whitefish; and salted lake trout.

NOTE.—Unless otherwise indicated the data are for 1931. The total value of manufactured products for the Lake States was as follows: By manufacturing establishments, $1,891,558; and by fishermen, $63,844. Some of the above products may have been manufactured from products imported from another State or country; therefore they cannot be correlated directly with the catch within the State.

FISHERIES OF THE MISSISSIPPI RIVER AND TRIBUTARIES [13]

The most recent complete catch statistics of the fisheries for the States of the Mississippi River and tributaries are those collected for the year 1931. The yield of fishery products in that year amounted to 82,382,523 pounds, valued at $2,897,357, which was a decrease of 22 percent in quantity and 36 percent in value as compared with the quantity and value of the catch in 1922 when the most recent preceding survey was made. Detailed statistics of the fisheries of the Mississippi River and tributaries for 1931 appear in "Fishery Industries of the United States, 1932" by R. H. Fiedler, Appendix III to the Report of the Commissioner of Fisheries for the fiscal year 1933. A summary of these fisheries in 1931 as well as certain data for 1933 appear in the following tables.

Fisheries of the Mississippi River and tributaries, 1931

OPERATING UNITS: By States

Items	Alabama	Arkansas	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Minnesota
Fishermen:									
On boats and shore:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Regular	104	1,463	708	20	245	35	89	1,402	160
Casual	131	1,524	1,318	1,735	648	88	440	3,108	578
Total	235	2,987	2,026	1,755	893	123	529	4,510	738
Boats:									
Motor	32	907	676	544	309	18	92	1,225	65
Other	190	2,359	957	1,189	457	123	420	2,369	446
Apparatus:									
Haul seines		16	127	50	133		24	377	113
Length, yards		7,308	33,975	5,170	36,339		2,057	85,166	49,968
Anchor gill nets		4						74	9
Square yards		2,800						17,400	9,999
Trammel nets		31	28	3		90		78	
Square yards		3,899	4,890	360		9,026		19,696	
Lines:									
Trot	449	5,327	1,312	320	1,158	17	627	5,757	186
Hooks	35,980	455,000	124,715	16,767	186,250	360	37,395	1,392,200	41,800
Pound nets					2				27
Fyke nets	610	5,346	9,852	335	1,981	189	1,231	5,908	74
Dip nets			22		10			159	
Traps:									
Crawfish								18	
Shrimp								88	
Baskets			3,769						
Mussel dredges		426	14						
Yards at mouth		286	10						
Crowfoot bars	168	1,038	840	1,092	464		256	10	192
Tongs		159		72				5	
Rakes		70							
Forks		102	33	1,278		29		5	
Grabs								2,232	

[13] For a clearer understanding of the statistics published in this section, the reader is referred to the section in the latter part of the document entitled "Statistical survey procedure."

Fisheries of the Mississippi River and tributaries, 1931—Continued

OPERATING UNITS: By States—Continued

Items	Mississippi	Missouri	Nebraska	Ohio	Oklahoma	South Dakota	Tennessee	Texas	Wisconsin	Total
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
On boats and shore:										
Regular	211	177			5		327	5	202	5,153
Casual	198	170	299	49	19	67	206	41	112	10,731
Total	409	347	299	49	24	67	533	46	314	15,884
Boats:										
Motor	138	84	30			2	138	6	160	4,426
Other	329	304	187	49	18	34	467	42	180	10,120
Apparatus:										
Haul seines	16	47	12	2	2	11			83	1,013
Length, yards	6,885	5,668	906	180	60	1,948			20,149	255,779
Anchor gill nets	4	1			3				6	101
Square yards	800	160			990				13,488	45,637
Trammel nets	17	104	115				52			518
Square yards	2,867	14,668	4,833				3,560			63,799
Lines:										
Hand							67			67
Hooks							67			67
Trot	847	516		19	29	18	464	80	3	17,129
Hooks	72,155	34,600		900	1,075	3,600	41,690	14,500	125	2,459,112
Pound nets									345	374
Fyke nets	2,591	1,872	296	76	85	68	1,735	70	222	32,541
Dip nets										191
Traps:										
Crawfish										18
Shrimp	350									438
Baskets										3,769
Spears							12			12
Mussel dredges										440
Yards at mouth										296
Crowfoot bars							230		190	4,480
Tongs		9								245
Rakes										70
Forks										1,447
Grabs										2,232

CATCH: By States

Species	Alabama		Arkansas		Illinois		Indiana	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin			700	$28	8,308	$241		
Buffalofish	21,330	$2,342	2,182,446	131,474	911,609	51,893	85,045	$8,156
Carp	11,000	1,118	808,206	27,268	4,878,744	128,221	157,641	10,162
Catfish and bullheads	81,200	8,850	1,077,343	93,150	647,696	68,890	35,370	5,302
Crappie	9,772	1,004	11,325	227				
Eels					4,985	322		
Mooneye					1,000	20		
Paddlefish or spoonbill cat	3,958	338	93,200	2,159	104,846	5,480	16,492	1,724
Quillback or "American carp"	7,657	875	6,830	676	17,532	608	30,312	1,436
Sheepshead	45,909	4,972	676,358	29,877	177,709	11,321	38,740	3,711
Sturgeon, shovelnose	575	70			39,766	3,448	3,013	292
Sucker "mullet"	5,752	609	3,309	235	25,130	1,087	16,797	1,156
White bass					1,200	92		
Yellow pike							4,550	603
Total	187,153	20,178	4,859,717	285,094	6,818,525	271,623	387,960	32,632
SHELLFISH, ETC.								
Mussel shells	1,635,000	10,132	10,872,790	108,819	7,429,528	82,894	7,328,736	105,632
Pearls				3,137		190		125
Slugs		2,444		14,401		11,835		18,788
Turtles:								
Snapper					14,577	693	500	25
Soft shell							400	20
Total	1,635,000	12,576	10,872,790	126,357	7,444,105	95,615	7,329,636	124,590
Grand total	1,822,153	32,754	15,732,507	411,451	14,262,630	367,238	7,717,596	157,222

Fisheries of the Mississippi River and tributaries, 1931—Continued

CATCH: BY STATES—Continued

Species	Iowa		Kansas		Kentucky		Louisiana	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	91,825	$3,759					5,715	$114
Buffalofish	746,615	59,705	24,325	$2,222	164,558	$14,429	8,784,314	263,261
Carp	1,594,244	80,134	117,489	10,956	113,461	8,124	204,743	4,127
Catfish and bullheads	467,340	48,593	770	111	131,777	17,043	6,602,987	528,579
Eels	325	15					200	6
Garfish							72,450	791
Mooneye	1,100	28			990	105		
Paddlefish or spoonbill cat	9,400	638			18,322	1,617	495,544	21,508
Pike or pickerel	4,700	470						
Quillback or "American carp"	60,450	1,339	100	11	11,355	984	20,700	431
Sauger					2,365	451		
Sheepshead	343,449	17,619			52,560	6,762	1,976,600	39,577
Sturgeon, shovelnose	17,650	1,663	175	24	2,967	380		
Sucker "mullet"	36,550	822			10,294	1,331		
Yellow pike					70	18		
Total	3,373,648	214,785	142,859	13,324	508,719	51,244	18,163,253	858,394
SHELLFISH, ETC.								
Crawfish							29,248	292
Shrimp							38,503	2,423
Mussel shells	4,366,219	65,685	312,562	2,713	1,113,032	8,786	50,000	375
Pearls		7,244						
Slugs		13,924		636		852		
Frogs							872,651	130,612
Terrapin	19,100	377						
Turtles:								
Snapper	2,000	40					58,013	2,244
Soft-shell	17,000	340					1,700	34
Total	4,404,319	87,610	312,562	3,349	1,113,032	9,638	1,050,115	135,980
Grand total	7,777,967	302,395	455,421	16,673	1,621,751	60,882	19,213,368	994,374

Species	Minnesota		Mississippi		Missouri		Nebraska	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	16,598	$282			17,000	$520		
Buffalofish	257,431	15,092	1,511,126	$63,824	178,991	16,414	18,104	$1,813
Carp	2,151,119	97,756	225,276	6,730	433,117	33,356	93,032	9,305
Catfish and bullheads	53,804	4,841	635,049	42,384	91,430	15,487	34,174	5,135
Eels			250	20	1,055	53		
Minnows					525	209		
Paddlefish or spoonbill cat			158,821	5,879	40,103	2,917		
Quillback or "American carp"	17,246	519	2,157	42	13,672	946		
Sheepshead	152,545	7,938	106,844	2,576	38,186	3,773		
Sturgeon, shovelnose	1,634	115	100	3	17,282	1,703		
Sucker "mullet"	65,273	1,955			2,275	292		
Total	2,715,650	128,498	2,639,623	121,458	833,636	75,670	145,310	16,253
SHELLFISH, ETC.								
Shrimp			10,000	1,500				
Mussel shells	782,630	7,827			94,000	1,193		
Pearls		157						
Slugs		1,174				118		
Turtles, snapper			100	3				
Total	782,630	9,158	10,100	1,503	94,000	1,311		
Grand total	3,498,280	137,656	2,649,723	122,961	927,636	76,981	145,310	16,253

Fisheries of the Mississippi River and tributaries, 1931—Continued

CATCH: By States—Continued

Species	Ohio		Oklahoma		South Dakota		Tennessee	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Black bass							14,000	$1,680
Buffalofish	6,433	$662	21,605	$2,142	38,926	$3,894	478,592	34,247
Carp	14,370	1,543	4,268	425	52,836	2,642	247,841	9,594
Catfish and bullheads	4,380	811	4,935	695	13,500	3,528	271,753	24,750
Crappie					1,392	70	18,652	1,658
Eels							163	25
Paddlefish or spoonbill cat			5,332	533	400	40	5,034	301
Quillback or "American carp"	1,195	119	1,950	195	4,364	220	6,065	843
Sheepshead	1,318	224	1,550	155	697	70	197,670	10,465
Sturgeon, shovelnose	558	72					3,706	393
Sucker "mullet"	2,902	268			2,246	112	8,323	1,119
Sunfish							21,850	1,094
White bass							2,100	106
Yellow pike	325	60						
Total	31,481	3,759	39,640	4,145	114,361	10,576	1,275,749	86,275
SHELLFISH, ETC.								
Mussel shells	154,000	3,005					2,157,000	15,604
Pearls								28
Slugs		308						1,724
Frogs							2,250	270
Terrapin							70	14
Total	154,000	3,313					2,159,320	17,640
Grand total	185,481	7,072	39,640	4,145	114,361	10,576	3,435,069	103,915

Species	Texas		Wisconsin		Total	
FISH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Black bass					14,000	$1,680
Bowfin			288,170	$4,355	428,316	9,299
Buffalofish	73,000	$2,190	268,001	13,528	15,772,451	687,288
Carp	6,900	138	777,474	23,800	11,891,761	455,399
Catfish and bullheads	47,800	3,824	65,539	5,825	10,266,847	877,798
Crappie					41,141	2,959
Eels					6,978	441
Garfish					72,450	791
Minnows					525	209
Mooneye					3,090	153
Paddlefish or spoonbill cat					951,452	43,134
Pike or pickerel					4,700	470
Quillback or "American carp"	500	10	66,353	2,032	268,438	11,286
Sauger					2,365	451
Sheepshead	10,300	206	84,409	3,692	3,904,844	142,938
Sturgeon, shovelnose					87,426	8,163
Sucker "mullet"			135,984	3,696	314,835	12,682
Sunfish					21,850	1,094
White bass					3,300	198
Yellow pike					4,945	771
Total	138,500	6,368	1,685,930	56,928	44,061,714	2,257,204
SHELLFISH, ETC.						
Crawfish					29,248	292
Shrimp					48,503	3,923
Mussel shells			959,200	8,946	37,254,697	421,611
Pearls				555		11,436
Slugs				2,012		68,216
Frogs					874,901	130,882
Terrapin					19,170	391
Turtles:						
Snapper					75,190	3,008
Soft-shell					19,100	394
Total			959,200	11,513	38,320,809	640,153
Grand total	138,500	6,368	2,645,130	68,441	82,382,523	2,897,357

Industries related to the fisheries of the Mississippi River and tributaries

OPERATING UNITS, SALARIES, AND WAGES, 1931

Item	Arkansas	Illinois	Indiana	Iowa	Kentucky	Louisiana	Minnesota and North Dakota
Transporting:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Persons engaged	13	---	---	---	11	5	---
Vessels, motor	4	---	---	---	2	2	---
Net tonnage	69	---	---	---	15	20	---
Wholesale and manufacturing:							
Establishments	6	38	4	61	11	22	13
Persons engaged:							
Proprietors	3	42	1	52	8	24	11
Salaried employees	9	3	5	79	20	14	27
Wage earners:							
Average for season	152	331	140	2,500	261	70	112
Average for year	72	235	93	2,179	159	68	112
Paid to salaried employees	$11,417	$9,520	$6,820	$141,346	$33,159	$12,400	$55,200
Paid to wage earners	$53,503	$145,683	$51,444	$1,417,678	$81,643	$37,700	$81,500
Total salaries and wages	$64,920	$155,203	$58,264	$1,559,024	$114,802	$50,100	$136,700
Fishermen manufacturing	---	4	2	---	---	200	---

Item	Mississippi	Missouri and Oklahoma	Nebraska and Kansas	Ohio and Pennsylvania	Tennessee	Wisconsin	Total
Transporting:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Persons engaged	---	---	---	---	---	---	29
Vessels, motor	---	---	---	---	---	---	8
Net tonnage	---	---	---	---	---	---	104
Wholesale and manufacturing:							
Establishments	6	21	3	13	11	8	217
Persons engaged:							
Proprietors	7	24	3	17	9	3	204
Salaried employees	3	125	8	37	15	10	355
Wage earners:							
Average for season	26	328	52	175	90	38	4,275
Average for year	26	261	52	145	52	29	3,483
Paid to salaried employees	$16,000	$291,874	$17,400	$95,878	$34,884	$12,998	$738,896
Paid to wage earners	$22,382	$202,944	$45,580	$138,817	$38,177	$24,483	$2,341,534
Total salaries and wages	$38,382	$494,818	$62,980	$234,695	$73,061	$37,481	$3,080,430
Fishermen manufacturing	7	3	---	---	---	---	216

PRODUCTS MANUFACTURED

Item	Indiana		Iowa		Kentucky, Illinois, and Missouri	
By manufacturing establishments:	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Salmon, smoked—pounds	---	---	240,000	$48,800	---	---
Sturgeon, smoked—do	---	---	162,000	39,140	---	---
Mussel-shell products:						
Buttons [2]—gross	---	---	13,698,445	3,139,905	---	(1)
Poultry feed [3]—tons	---	---	7,575	59,639	---	(1)
Lime [2]—do	---	---	2,524	8,274	---	(1)
Unclassified [2]	---	---	---	[4] 156,210	---	[4] $112,808
Unclassified, smoked—pounds	---	---	[5] 83,000	[5] 14,440	---	---
Total	---	---	---	3,466,408	---	112,808

[1] The production of this item is included under unclassified products.
[2] Data are for 1933.
[3] Includes the production of mussel-shell stucco, novelties, and colored shells and chips.
[4] Includes the production of mussel-shell buttons, poultry feed, and lime.
[5] Includes the production of smoked buffalofish and tullibees.

Industries related to the fisheries of the Mississippi River and tributaries—Continued

PRODUCTS MANUFACTURED—Continued

Item	Indiana		Iowa		Kentucky, Illinois, and Missouri	
By fishermen:	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Carp, smoked—pounds					667	$67
Paddlefish roe, salted—do	450	$180			900	540
Sheepshead, smoked—do					617	77
Sturgeon:						
Smoked—do					1,333	400
Roe, salted—do					35	32
Total	450	180			3,552	1,116
Grand total	450	180		$3,466,408		113,924

Item	Louisiana		Minnesota and Nebraska		Mississippi		Tennessee, Ohio, and Pennsylvania	
By manufacturing establishments:	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Salmon, smoked—pounds			(1)	(1)				
Sturgeon, smoked—do			(1)	(1)				
Whitefish smoked—do			255,000	$47,200				
Unclassified, smoked—lbs			[6] 66,600	[6] 19,793			[7] 291,500	[7] $77,205
Total			321,600	66,993			291,500	77,205
By fishermen:								
Alligator hides—pounds	88,356	$7,363						
Paddlefish roe, salted—do					245	$92		
Total	88,356	7,363			245	92		
Grand total	88,356	7,363	321,600	66,993	245	92	291,500	77,205

[1] The production of this item is included under unclassified products.
[6] Includes the production of smoked eels, salmon, and sturgeon.
[7] Includes the production of smoked buffalofish, butterfish, carp, chubs, lake trout, paddlefish, sablefish, salmon, and tullibees.

NOTE.—Unless otherwise indicated the data are for 1931. The total value of the manufactured products for the States of the Mississippi River and tributaries was as follows: By manufacturing establishments, $3,723,414; and by fishermen, $8,751. Some of the above products may have been manufactured from fishery products imported from another State or a foreign country; therefore, they cannot be correlated directly with the catch within the State.

LAKE PEPIN

Fisheries of Lake Pepin, 1933

OPERATING UNITS: BY GEAR

Item	Haul seines	Anchor gill nets	Trot lines	Pound nets	Fyke nets	Total, exclusive of duplication
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Regular	8			1	6	9
Casual	40	14	2	1	20	44
Total	48	14	2	2	26	53
Boats:						
Motor	16	7		2	17	22
Other	15	7	2	2	12	23
Apparatus:						
Number	30	17	2	4	150	
Length, yards	4,875					
Square yards		27,000				
Hooks			600			

Fisheries of Lake Pepin, 1933—Continued

CATCH: BY GEAR

Species	Haul seines		Anchor gill nets		Trot lines	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	10,300	$206				
Buffalofish	9,700	388	8,000	$320		
Carp	427,000	12,410	80,000	2,400	1,000	$30
Catfish and bullheads	8,450	845			3,000	300
Sheepshead	2,500	100			1,000	40
Sucker "mullet"	31,000	620				
Turtles:						
Snapper	1,000	20			200	4
Soft-shell	500	10				
Total	490,450	14,599	88,000	2,720	5,200	374

Species	Pound nets		Fyke nets		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin					10,300	$206
Buffalofish	5,000	$200	19,000	$760	41,700	1,668
Carp	25,000	750	102,000	3,060	635,000	18,650
Catfish and bullheads	5,000	500	21,000	2,100	37,450	3,745
Sheepshead			5,500	220	9,000	360
Sucker "mullet"	5,000	100			36,000	720
Turtles:						
Snapper					1,200	24
Soft-shell					500	10
Total	40,000	1,550	147,500	6,140	771,150	25,383

OPERATING UNITS: BY STATES

Item	Minnesota	Wisconsin	Total for lake
	Number	*Number*	*Number*
Fishermen:			
Regular		9	9
Casual	8	36	44
Total	8	45	53
Boats:			
Motor	2	20	22
Other	4	19	23
Apparatus:			
Haul seines	2	28	30
Length, yards	400	4,475	4,875
Gill nets, anchor		17	17
Square yards		27,000	27,000
Lines, trot	2		2
Hooks	600		600
Pound nets		4	4
Fyke nets		150	150

CATCH: BY STATES

Species	Minnesota		Wisconsin		Total for lake	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	500	$10	9,800	$196	10,300	$206
Buffalofish	200	8	41,500	1,660	41,700	1,668
Carp	65,000	1,950	570,000	16,700	635,000	18,650
Catfish and bullheads	3,650	365	33,800	3,380	37,450	3,745
Sheepshead	2,500	100	6,500	260	9,000	360
Sucker "mullet"	1,500	30	34,500	690	36,000	720
Turtles:						
Snapper	200	4	1,000	20	1,200	24
Soft-shell			500	10	500	10
Total	73,550	2,467	697,600	22,916	771,150	25,383

LAKE KEOKUK

Fisheries of Lake Keokuk, 1933

OPERATING UNITS: BY GEAR

Item	Haul seines	Trot lines	Fyke nets	Total, exclusive of duplication
Fishermen:	*Number*	*Number*	*Number*	*Number*
Regular	20		23	28
Casual	45	20	62	68
Total	65	20	85	96
Boats:				
Motor	21	5	32	33
Other	32	18	50	54
Apparatus:				
Number	30	60	555	
Length, yards	3,400			
Hooks		18,000		

CATCH: BY GEAR

Species	Haul seines		Trot lines		Fyke nets		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	2,500	$50					2,500	$50
Buffalofish	14,000	555			61,800	$2,422	75,800	2,977
Carp	120,000	3,350	2,000	$50	91,000	2,680	213,000	6,080
Catfish and bullheads	5,000	500	9,000	900	74,500	7,450	88,500	8,850
Sheepshead	24,500	980	1,500	60	61,500	2,460	87,500	3,500
Sturgeon, shovelnose	875	72					875	72
Sucker "mullet"	300	6			1,600	32	1,900	38
Turtles:								
Snapper	5,000	100			150	3	5,150	103
Soft-shell	2,000	40					2,000	40
Total	174,175	5,653	12,500	1,010	290,550	15,047	477,225	21,710

OPERATING UNITS: BY STATES

Item	Illinois	Iowa	Total for lake
Fishermen:	*Number*	*Number*	*Number*
Regular	7	21	28
Casual	28	40	68
Total	35	61	96
Boats:			
Motor	12	21	33
Other	22	32	54
Apparatus:			
Haul seines	7	23	30
Length, yards	700	2,700	3,400
Lines, trot	24	36	60
Hooks	7,200	10,800	18,000
Fyke nets	240	315	555

CATCH: BY STATES

Species	Illinois		Iowa		Total for lake	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin			2,500	$50	2,500	$50
Buffalofish	9,300	$372	66,500	2,605	75,800	2,977
Carp	76,000	2,280	137,000	3,800	213,000	6,080
Catfish and bullheads	42,700	4,270	45,800	4,580	88,500	8,850
Sheepshead	18,500	740	69,000	2,760	87,500	3,500
Sturgeon, shovelnose			875	72	875	72
Sucker "mullet"	1,000	20	900	18	1,900	38
Turtles:						
Snapper	1,150	23	4,000	80	5,150	103
Soft-shell			2,000	40	2,000	40
Total	148,650	7,705	328,575	14,005	477,225	21,710

MISSISSIPPI RIVER BETWEEN LAKE PEPIN AND LAKE KEOKUK

Fisheries of the Mississippi River between Lake Pepin and Lake Keokuk, 1933

OPERATING UNITS: By gear

Item	Haul seines	Anchor gill nets	Trammel nets	Trot lines	Fyke nets	Dip nets	Total, exclusive of duplication
Fishermen:	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*	*Number*
Regular	50				100	22	126
Casual	324	7	32	144	451	50	595
Total	374	7	32	144	551	72	721
Boats:							
Motor	135	7	32	20	330		351
Other	125			126	181		309
Apparatus:							
Number	160	7	32	144	10,960	72	
Length, yards	17,600						
Square yards		1,400	5,200				
Hooks				24,236			

CATCH: By gear

Species	Haul seines		Anchor gill nets		Trammel nets		Trot lines	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	56,000	$1,120						
Buffalofish	257,000	10,287	4,000	$160	18,000	$720		
Carp	1,346,300	39,864	6,000	180	19,000	570	40,700	$1,329
Catfish and bullheads	43,200	4,290	1,000	100	3,500	350	49,550	4,955
Eels	365	28					350	19
Gizzard shad	1,000	20						
Mooneye	500	10						
Paddlefish or spoonbill cat	2,950	260						
Pike or pickerel	5,750	248						
Sheepshead	284,300	11,393	3,500	140	8,500	340	30,250	1,247
Sturgeon, shovelnose	28,700	2,296	2,200	176	19,600	1,568		
Sucker "mullet"	129,200	2,668			500	10		
Turtles:								
Snapper	16,650	333						
Soft-shell	8,500	170						
Total	2,180,415	72,987	16,700	756	69,100	3,558	120,850	7,550

Species	Fyke nets		Dip nets		Total	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	1,500	$30	12,000	$240	69,500	$1,390
Buffalofish	573,600	22,944	50,000	2,000	902,600	36,111
Carp	683,000	20,495	54,000	1,620	2,149,000	64,058
Catfish and bullheads	356,700	35,670	12,500	1,250	466,450	46,615
Eels					715	47
Gizzard shad					1,000	20
Mooneye					500	10
Paddlefish or spoonbill cat			3,000	240	5,950	500
Pike or pickerel					5,750	248
Sheepshead	291,500	11,720	82,000	3,280	700,050	28,120
Sturgeon, shovelnose			12,700	1,016	63,200	5,056
Sucker "mullet"	11,400	220			141,100	2,898
Turtles:						
Snapper	300	6			16,950	339
Soft-shell					8,500	170
Total	1,918,000	91,085	226,200	9,646	4,531,265	185,582

Fisheries of the Mississippi River between Lake Pepin and Lake Keokuk, 1933—Con.

OPERATING UNITS: By States

Item	Illinois	Iowa	Minnesota	Wisconsin	Total
	Number	*Number*	*Number*	*Number*	*Number*
Fishermen:					
Regular	23	85	----------	18	126
Casual	130	260	73	132	595
Total	153	345	73	150	721
Boats:					
Motor	73	153	28	97	351
Other	81	128	45	55	309
Apparatus:					
Haul seines	29	72	17	42	160
Length, yards	3,150	8,000	2,250	4,200	17,600
Gill nets	----------	----------	----------	7	7
Square yards	----------	----------	----------	1,400	1,400
Trammel nets	----------	24	----------	8	32
Square yards	----------	4,133	----------	1,067	5,200
Lines, trot	38	49	45	12	144
Hooks	5,800	8,700	8,136	1,600	24,236
Fyke nets	2,145	5,775	360	2,680	10,960
Dip nets	----------	72	----------	----------	72

CATCH: By States

Species	Illinois		Iowa		Minnesota	
	Pounds	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Bowfin	2,500	$50	27,800	$556	4,500	$90
Buffalofish	166,800	6,672	445,200	17,808	42,800	1,719
Carp	351,600	10,583	919,700	27,640	230,400	6,466
Catfish and bullheads	107,950	10,795	231,650	23,165	38,100	3,780
Eels	----------	----------	715	47	----------	----------
Gizzard shad	----------	----------	1,000	20	----------	----------
Mooneye	----------	----------	----------	----------	500	10
Paddlefish or spoonbill cat	500	40	5,250	440	----------	----------
Pike or pickerel	----------	----------	5,550	240	----------	----------
Sheepshead	131,500	5,350	351,750	14,070	47,800	1,940
Sturgeon, shovelnose	10,200	816	41,500	3,320	3,000	240
Sucker "mullet"	7,000	134	47,600	1,034	31,700	634
Turtles:						
Snapper	1,600	32	4,000	80	2,400	48
Soft-shell	500	10	2,750	55	----------	----------
Total	780,150	34,482	2,084,465	88,475	401,200	14,927

Fisheries of the Mississippi River between Lake Pepin and Lake Keokuk, 1933—Con.

CATCH: BY STATES—Continued

Species	Wisconsin		Total	
	Pounds	*Value*	*Pounds*	*Value*
Bowfin	34,700	$694	69,500	$1,390
Buffalofish	247,800	9,912	902,600	36,111
Carp	647,300	19,369	2,149,000	64,058
Catfish and bullheads	88,750	8,875	466,450	46,615
Eels			715	47
Gizzard shad			1,000	20
Mooneye			500	10
Paddlefish or spoonbill cat	200	20	5,950	500
Pike or pickerel	200	8	5,750	248
Sheepshead	169,000	6,760	700,050	28,120
Sturgeon, shovelnose	8,500	680	63,200	5,056
Sucker "mullet"	54,800	1,096	141,100	2,898
Turtles:				
Snapper	8,950	179	16,950	339
Soft-shell	5,250	105	8,500	170
Total	1,265,450	47,698	4,531,265	185,582

FISHERIES OF ALASKA [14]

The commercial catch of fishery products in Alaska during 1933, exclusive of whales, amounted to 627,395,274 pounds, valued at $9,088,984, which is an increase of 5 percent in volume and 30 percent in value as compared with the catch in 1932. Of the total catch in 1933, 467,348,858 pounds, valued at $7,498,037, consisted of salmon; 157,337,810 pounds, valued at $1,443,414, other fish; and 2,708,606 pounds, valued at $147,533, shellfish. In addition, 182 whales were taken. These fisheries gave employment to 8,656 fishermen, 1,283 persons on transporting craft, and 11,756 persons in fisheries wholesale and manufacturing industries—a total of 21,695 persons, which is an increase of 8 percent as compared with the number employed in 1932.

[14] Statistics for the fisheries of Alaska are collected and compiled by the Alaska Division of this Bureau. A summary of these statistics appear in this section. For detailed figures the reader is referred to "Alaska Fisheries and Fur-Seal Industries in 1933" by Ward T. Bower, Appendix II to the Report of Commissioner of Fisheries for the fiscal year 1934.

SUMMARY: BY DISTRICTS

Item	Southeast Alaska		Central Alaska		Western Alaska		Total	
PERSONS ENGAGED	*Number*	*Value*	*Number*	*Value*	*Number*	*Value*	*Number*	*Value*
In fishing	3,879		1,888		2,889		8,656	
In transporting	537		395		351		1,283	
In wholesale and manufacturing industries	4,742		3,131		3,883		11,756	
Total	9,158		5,414		7,123		21,695	
CRAFT EMPLOYED								
Vessels fishing	460		41		6		507	
Boats fishing	1,896		1,014		1,308		4,218	
Vessels transporting	121		98		78		292	
Scows, houseboats, pile drivers, etc	234		197		187		618	
Total	2,711		1,345		1,579		5,635	
CATCH								
Fish:	*Pounds*		*Pounds*		*Pounds*		*Pounds*	
Salmon	169,461,046	$2,671,835	128,249,502	$2,013,780	169,638,310	$2,812,422	467,348,858	$7,498,037
Other	117,921,514	1,242,270	35,569,663	181,531	3,846,633	19,613	157,337,810	1,443,414
Shellfish	974,187	48,305	1,734,419	99,228			2,708,606	147,533
Total	288,356,747	3,962,410	165,553,584	2,294,539	173,484,943	2,832,035	627,395,274	9,088,984
Whales	*Number*		*Number* 182		*Number*		*Number* 182	
WHOLESALE AND MANUFACTURING								
Establishments	79		97		48		224	
PRODUCTS AS PREPARED FOR MARKET	*Pounds*		*Pounds*		*Pounds*		*Pounds*	
Salmon	109,650,847	10,477,788	72,156,995	7,897,181	81,432,367	11,029,103	263,240,209	29,404,072
Herring	44,173,201	806,062	16,705,660	490,837	2,417,315	105,295	63,296,176	1,402,194
Halibut	14,046,850	724,572	22,061	1,790			14,068,911	726,362
Cod			251,665	9,757	86,810	3,150	338,475	12,907
Trout	37,355	1,815	3,000	150			40,355	1,965
Sablefish	103,095	4,505					103,095	4,505
Smelt			500	50			500	50
Flounder	75,000	1,125					75,000	1,125
Rockfish	3,533	119					3,533	119
Clam	1,992	361	521,028	245,977			523,020	246,338
Shrimp	309,092	100,340	9,960	2,042			319,052	102,382
Crab	219,154	56,331	351,542	99,249			570,696	155,580
Whale			3,378,125	68,989			3,378,125	68,989
Total	168,620,119	12,173,018	93,400,536	8,816,022	83,936,492	11,137,548	345,957,147	32,126,588

OPERATING UNITS: BY DISTRICTS

Item	Southeast Alaska	Central Alaska	Western Alaska	Total
	Number	*Number*	*Number*	*Number*
Fishermen	3,879	1,888	2,889	8,656
Vessels fishing:				
Steam		3		3
Net tonnage		217		217
Motor	460	38	6	504
Net tonnage	6,347	828	195	7,370
Boats fishing:				
Motor	731	250	51	1,032
Other	1,165	764	1,257	3,186
Apparatus:				
Traps	261	138	1	400
Purse seines	357	82	6	445
Yards	115,794	18,216	2,850	136,860
Haul seines	3	96	3	102
Yards	600	19,374	230	20,204
Apparatus—Continued:				
Gill nets	265	957	2,124	3,346
Yards	49,250	88,900	313,662	451,812
Beam trawls	10	1		11
Wheels			280	280
Lines:				
Hand lines (cod fishery)		33	27	60
Trawl lines (cod fishery)		6	7	13
Troll lines (salmon fishery)	3,047			3,047
Skates of lines (halibut fishery)	2,341			2,341
Crab pots	732	260		992
Herring pounds	4	12		16
Herring pound seines	8	8		16

CATCH: BY DISTRICTS

[Estimated round weight and value to fishermen]

Item	Southeast Alaska		Central Alaska		Western Alaska		Total	
FISH								
Salmon:	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Blueback, red or sockeye	7,073,220	$146,631	44,521,582	$857,244	157,730,300	$2,745,537	209,325,102	$3,749,412
Chinook or king	8,543,780	194,853	1,914,780	47,075	1,716,300	21,744	12,174,860	263,672
Chum or keta	40,926,618	442,409	20,046,636	221,520	10,056,726	43,208	71,029,980	707,137
Humpback or pink	103,132,780	1,718,786	55,956,760	803,225	112	3	159,089,652	2,522,014
Silver or coho	9,784,648	169,156	5,809,744	84,716	134,872	1,930	15,729,264	255,802
Herring	102,026,831	510,134	34,945,643	174,728	3,607,933	18,040	140,580,407	702,902
Halibut	15,607,611	724,572	24,512	1,790			15,632,123	726,362
Cod			589,383	4,813	238,700	1,573	828,083	6,386
Trout:								
Dolly Varden	35,109	1,391	9,375	150			44,484	1,541
Steelhead	11,585	424					11,585	424
Sablefish	151,610	4,505					151,610	4,505
Smelt			750	50			750	50

Flounders	83,333	1,125					83,333	1,125
Rockfishes	5,435	119					5,435	119
Total	287,382,560	3,914,105	163,819,165	2,195,311	173,484,943	2,832,035	624,686,668	8,941,451
SHELLFISH								
Crabs	408,218	28,165	674,374	49,625			1,082,592	77,790
Shrimp	561,985	20,068	18,109	408			580,094	20,476
Clams:								
Butter	3,984	72					3,984	72
Razor			1,041,936	49,195			1,041,936	49,195
Total	974,187	48,305	1,734,419	99,228			2,708,606	147,533
Grand total	288,356,747	3,962,410	165,553,584	2,294,539	173,484,943	2,832,035	627,395,274	9,088,984

NOTE.—In addition to the above, 182 whales were taken in Alaskan waters. The round weight and value to the fishermen cannot be determined, but the products amounted to 3,378,125 pounds, valued at $68,989.

Industries related to the fisheries of Alaska, 1933

TRANSPORTING

Item	Southeast Alaska	Central Alaska	Western Alaska	Total	Item	Southeast Alaska	Central Alaska	Western Alaska	Total
	Number	*Number*	*Number*	*Number*		*Number*	*Number*	*Number*	*Number*
Persons engaged	537	395	351	1,283	Vessels transporting—Continued:				
Vessels transporting:					Motor	121	92	69	282
Steam		1	9	10	Net tonnage	3,556	2,919	4,507	10,982
Net tonnage		1,724	16,643	18,367	Scows, houseboats, pile drivers, etc	234	197	187	618

Industries related to the fisheries of Alaska, 1933—Continued

WHOLESALE AND MANUFACTURING

Item	Southeast Alaska	Central Alaska	Western Alaska	Total
	Number	*Number*	*Number*	*Number*
Persons engaged	4,742	3,131	3,883	11,756
Establishments:				
Handling fresh and frozen fish	39	3	----------	42
Curing fish	31	57	36	124
Canning fish	42	43	23	108
Manufacturing by-products	7	5	----------	12
Total (exclusive of duplication)	79	97	48	224

PRODUCTS AS PREPARED FOR MARKET

Item	Southeast Alaska		Central Alaska		Western Alaska		Total	
FRESH	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*	*Pounds*	*Value*
Salmon (for food)	559,287	$30,601	----------	----------	----------	----------	559,287	$30,601
Salmon (for bait)	48,700	277	15,300	$100	----------	----------	64,000	377
Herring (for bait)	2,413,220	21,232	562,300	5,014	----------	----------	2,975,520	26,246
Halibut	8,260,476	415,833	22,061	1,790	----------	----------	8,282,537	417,623
Trout	27,822	1,377	1,500	120	----------	----------	29,322	1,497
Sablefish	8,990	271	----------	----------	----------	----------	8,990	271
Smelt	----------	----------	500	50	----------	----------	500	50
Flounders	75,000	1,125	----------	----------	----------	----------	75,000	1,125
Rockfishes	428	10	----------	----------	----------	----------	428	10
Crabs:								
Meat	62,968	15,923	27,392	3,711	----------	----------	90,360	19,634
Whole in shell	30,090	665	28,710	951	----------	----------	58,800	1,616
Clams, whole in shell	----------	----------	120	25	----------	----------	120	25
Shrimp:								
Meat	307,552	100,109	9,460	1,992	----------	----------	317,012	102,101
Whole in shell	1,540	231	500	50	----------	----------	2,040	281
Total	11,796,073	587,654	667,843	13,803	----------	----------	12,463,916	601,457
FROZEN								
Salmon (for food)	4,236,252	221,382	----------	----------	----------	----------	4,236,252	221,382
Herring (for bait)	1,496,370	12,263	----------	----------	----------	----------	1,496,370	12,263
Halibut	5,786,374	308,739	----------	----------	----------	----------	5,786,374	308,739
Trout	9,533	438	----------	----------	----------	----------	9,533	438

Sablefish	92,705	4,134					92,705	4,134
Rockfishes	3,105	109					3,105	109
Total	11,624,339	547,065					11,624,339	547,065
CURED								
Salmon:								
Mild-cured	3,817,600	612,393			105,600	$10,435	3,923,200	622,828
Pickled	14,000	926	342,450	27,108	678,500	45,886	1,034,950	73,920
Dried and dry-salted			31,425	641	1,368,107	54,640	1,399,532	55,281
Herring:								
Pickled (for food):								
Scotch-cure	3,874,703	174,284	7,177,000	338,065	1,599,625	73,982	12,651,328	586,331
Norwegian-cure	31,250	1,750	6,000	450	253,700	11,819	290,950	14,019
Roused					509,790	17,474	509,790	17,474
Spiced	1,000	125					1,000	125
Dry-salted					54,200	2,020	54,200	2,020
Cod:								
Dry-salted			36,620	1,067	45,810	1,350	82,430	2,417
Pickled			186,425	5,865	38,000	1,500	224,425	7,365
Stockfish			28,220	2,785	3,000	300	31,220	3,085
Tongues			400	40			400	40
Trout, dried			1,500	30			1,500	30
Sablefish, pickled	1,400	100					1,400	100
Total	7,739,953	789,578	7,810,040	376,051	4,656,332	219,406	20,206,325	1,385,035
CANNED								
Salmon:								
Blueback, red or sockeye	3,894,048	573,847	23,255,232	3,336,299	77,504,304	10,723,142	104,653,584	14,633,288
Chinook or king	391,008	58,395	1,141,728	180,633	455,088	72,154	1,987,824	311,182
Chum or keta	20,393,328	1,729,485	9,978,192	868,067	1,250,352	115,254	31,621,872	2,712,806
Humpback or pink	70,944,624	6,729,582	33,817,824	3,144,137			104,762,448	9,873,719
Silver or coho	4,598,640	507,480	3,134,736	330,022	69,888	7,517	7,803,264	845,019
Miscellaneous fish	3,360	520	9,000	2,647	528	75	12,888	3,242
Clams	1,992	361	520,908	245,952			522,900	246,313
Crabs	126,096	39,743	295,440	94,587			421,536	134,330
Total	100,353,096	9,639,413	72,153,060	8,202,344	79,280,160	10,918,142	251,786,316	28,759,899
BYPRODUCTS								
Fertilizer:								
Salmon	600,000	9,900	313,358	4,779			913,358	14,679
Whale			1,034,000	13,773			1,034,000	13,773
Meal, herring	17,534,860	277,611	4,496,000	71,911			22,030,860	349,522
Oil:								
Salmon	150,000	3,000	117,750	2,748			267,750	5,748
Herring	18,821,798	318,797	4,464,360	75,397			23,286,158	394,194
Whale			2,260,125	53,066			2,260,125	53,066
Sperm			84,000	2,150			84,000	2,150
Total	37,106,658	609,308	12,769,593	223,824			49,876,251	833,132
Grand total	168,620,119	12,173,018	93,400,536	8,816,022	83,936,492	11,137,548	345,957,147	32,126,588

NOTE.—Halibut products include all taken by the Alaska fleet, some of which were landed at other than Alaska ports. The total landings in Alaska in 1933 amounted to 6,779,768 pounds, valued at $316,310 as compared with 4,562,988 pounds, valued at $134,652, in 1932.

Supplementary table showing the pack of canned products in "Standard cases" [1]

Item	Southeast Alaska		Central Alaska		Western Alaska		Total	
	Cases	*Value*	*Cases*	*Value*	*Cases*	*Value*	*Cases*	*Value*
Salmon:								
Blueback, red or sockeye	81,126	$573,847	484,484	$3,336,299	1,614,673	$10,723,142	2,180,283	$14,633,288
Chinook or king	8,146	58,395	23,786	180,633	9,481	72,154	41,413	311,182
Chum or keta	424,861	1,729,485	207,879	868,067	26,049	115,254	658,789	2,712,806
Humpback or pink	1,478,013	6,729,582	704,538	3,144,137			2,182,551	9,873,719
Silver or coho	95,805	507,480	65,307	330,022	1,456	7,517	162,568	845,019
Miscellaneous fish	70	520	187	2,647	11	75	268	3,242
Clams	133	361	34,727	245,952			34,860	246,313
Crabs	2,627	39,743	6,155	94,587			8,782	134,330
Total	2,090,781	9,639,413	1,527,063	8,202,344	1,651,670	10,918,142	5,269,514	28,759,899

[1] The pack of salmon, miscellaneous fish, and crabs has been converted to "standard cases" of forty-eight 1-pound cans, and clams to "standard cases" of 48 no. 1, 5-ounce cans.

Supplementary table showing the output of byproducts in tons and gallons

Item	Southeast Alaska		Central Alaska		Western Alaska		Total	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Fertilizer:								
Salmon, tons	300	$9,900	157	$4,779			457	$14,679
Whale, do			517	13,773			517	13,773
Meal, herring, do	8,767	277,611	2,248	71,911			11,015	349,522
Oil:								
Salmon, gallons	20,000	3,000	15,700	2,748			35,700	5,748
Herring, do	2,509,573	318,797	595,248	75,397			3,104,821	394,194
Whale, do			301,350	53,066			301,350	53,066
Sperm, do			11,200	2,150			11,200	2,150
Total		609,308		223,824				833,132

STATISTICAL SURVEY PROCEDURE

In order that those who use the statistical data contained in this report and previous reports of the Division of Fishery Industries may be informed as to the source of the figures and methods for their collection, it has been deemed advisable to outline in considerable detail the statistical survey procedure followed by the Division. This procedure has been developed over a period of years, and changes in method have been made at times where such changes have appeared to work toward general improvement. While the surveys in the several sections are not made in the same manner owing to varying facilities and records in different States, an attempt has been made to make the data collected by various methods in the producing areas comparable with respect to the same year as well as over a period of years. Throughout the entire plan it has been the intention to coordinate State and Federal fishery statistical work so that there will be as little duplication of effort as possible. The procedure will be discussed under two main heads—"Sectional surveys" and "Local and special surveys".

SECTIONAL SURVEYS

Statistical surveys of the fisheries and fishery industries of the various sections of the United States occupy by far the greatest part of the time of the statistical personnel of the Division. It is in the course of these surveys that the statistical and marketing agents visit the individual fishing localities of the various States to collect statistics of the volume of the catch of fish and its value, employment in fishing, quantity of fishing gear, number and classification of fishing and transporting craft, employment in wholesale and manufacturing establishments, and the volume and value of manufactured fishery products and byproducts. The various phases of these surveys are discussed in detail in the sections following.

History.—The first comprehensive statistical survey of the fisheries and fishery industries of the United States was made for the year 1880 by George Brown Goode, Assistant Director of the U. S. National Museum and associates, with the cooperation of the Commissioner of Fisheries and the Superintendent of the Tenth Census. Data for specific fisheries or restricted sections for years prior to 1880 were also collected in this early survey and recorded in Mr. Goode's reports. The survey for 1880, however, did not include the Mississippi River and tributaries. Periodic general surveys of a limited number of States or limited areas of the United States were made for various of the intervening years between 1880 and 1908 and from 1909 to 1928. In 1908 a survey of the entire United States was made. The next general survey of the entire United States was not made until 1931 although complete data for all sections excluding the Mississippi River and tributaries were collected for 1929 and 1930 and complete data on the catch and operating units of the fisheries were collected for 1932. In the latter survey, however, lack of sufficient funds prohibited collection of data on wholesale and manufacturing firms except those data collected as a part of the canned fishery products and byproducts surveys. In 1933 a complete general canvass was made of the New England, Middle Atlantic, Chesapeake, and Pacific States.

Following is a summary indicating the years for which statistics were collected on the fisheries and fishery industries in the various sections. Figures for the more recent years are available for free distribution from the Bureau in bulletin form, but figures for the earlier years are available only in the various printed reports of the Bureau. These reports are available for reference in the Bureau's library and at many public libraries.

In the New England States statistics on the catch of the marine fisheries and those conducted in the coastal rivers and bays of these States were collected for the years 1880, 1887, 1888, 1889, 1898, 1902, 1905, 1908, 1919, 1924, 1928, 1929, 1930, 1931, 1932, and 1933. For most of these years data on operating units and wholesale and manufacturing trade also were collected. In addition to the above, a partial statistical survey was made for the entire section in 1892; a partial survey of the fisheries in Maine, New Hampshire, and Massachusetts for the fiscal year 1897; the lobster fishery for 1900 and 1913; the oyster fishery for 1910; the shad and alewife fisheries for 1896; the menhaden industry for 1912; the fisheries of Massachusetts for 1879; and the fisheries of Connecticut for 1925 and 1926.

Statistics on the catch of the marine fisheries and those conducted in the coastal rivers and bays of the Middle Atlantic States were collected for the years 1880, 1887, 1888, 1889, 1890, 1891, 1897, 1898, 1901, 1904, 1908, 1921, 1926, 1929, 1930, 1931, 1932, and 1933. Data on operating units and wholesale and manufacturing trade also were collected for most of these years. In addition to these a statistical survey was made of the coastal fisheries of these States in 1915; catch in all States except New York, in 1892; the shad and alewife fisheries in 1896; the shad fisheries of the Delaware River in 1910; the shad fisheries of the Chesapeake Bay and tributaries in 1909; the menhaden industry in 1912; the lobster fisheries in 1900 and 1913; and the oyster fishery in 1911. The years for which statistics are available on the shad fishery of the Hudson River are given in the section entitled "Shad and alewife fisheries".

In the Chesapeake Bay States statistics on the catch of the marine fisheries and those conducted in coastal rivers and bays of these States were collected for the years 1880, 1887, 1888, 1890, 1891, 1897, 1901, 1904, 1908, 1920, 1925, 1929, 1930, 1931, 1932, and 1933. Data on operating units and wholesale and manufacturing trade also were collected for most of these years. In addition to the above, a statistical survey was made of the crab fishery for 1915; the oyster fishery and menhaden industry for 1912; and the shad and alewife fisheries for 1896, 1909, and 1915. The years for which statistics of the shad and alewife fisheries of the Potomac River are available are given in the section entitled "Shad and alewife fisheries".

In the South Atlantic and Gulf States statistics on the catch of the marine fisheries and those conducted in the coastal rivers and bays of these States were collected for the years 1880, 1888, 1889, 1890, 1897, 1902, 1908, 1918, 1923, 1927, 1928, 1929, 1930, 1931, and 1932. Data on operating units and wholesale and manufacturing trade also were collected for most of these years. In addition to the above, a statistical survey was made of the fisheries of these States, excluding Florida and Alabama, for 1887; the shad fishery of the South Atlantic States for 1910; the shad and alewife fisheries of the South Atlantic States for 1896; the sturgeon fishery of Florida for 1900; the menhaden

industry of the South Atlantic States for 1912; the shrimp fishery for 1916; the oyster fishery of the South Atlantic States for 1910; and the oyster fishery of the Gulf States for 1911.

In the Pacific Coast States statistics on the catch of the marine fisheries and those conducted in the coastal rivers and bays of these States were collected for the years 1880, 1888, 1892, 1895, 1899, 1904, 1908, 1915, and for all the years from 1922 to 1933, inclusive. These surveys have usually included data on operating units and wholesale and manufacturing trade. In addition to the above, statistics were obtained on the fisheries of California from 1918 to 1921, inclusive, and for the oyster fishery in 1912.

Statistics on the catch of the fisheries of the Great Lakes were collected for the years 1880, 1885, 1890, 1893, 1899, 1903, 1908, and for all the years from 1913 to 1932, inclusive. Statistics of the operating units and of the wholesale and manufacturing trade were collected for most of the years when canvasses were made from 1880 to 1908 and in 1917 and 1922 as well as in most of the years from 1926 to 1932, inclusive. In addition to the above a survey was made of the fisheries of Lake Ontario and of certain fisheries in other lakes for the year 1897.

Statistics of the catch of the fisheries of the Mississippi River and its tributaries were collected for the years 1894, 1899, 1903, 1908, 1922, and 1931. In addition figures have been obtained of the fisheries of Lakes Pepin and Keokuk for the years 1914 and 1917 and the years from 1927 to 1933, inclusive, and of the fisheries of the Mississippi River between Lakes Pepin and Keokuk for the years 1929 to 1933, inclusive.

Statistics also were collected on the fisheries of certain interior waters, other than the fisheries of the Great Lakes and the Mississippi River and its tributaries, for the years 1894, 1895, 1900, and 1902.

Statistical agents.—The statistics contained in this volume have been collected by a corps of trained statistical and marketing agents which comprises a part of the permanent staff of the Division of Fishery Industries of the Bureau. Most of these men have been with the Bureau for a period of 5 years or more. In the main they are college graduates and were recruited through civil-service examination. While in college, most of the men pursued biological or technical courses largely in fishery work which has especially suited them for coping with the many biological and technical aspects encountered in canvassing the fisheries. This training has been especially helpful in identification of the species which, because of the many local names applied to a particular species, causes considerable confusion.

Period covered.—In conducting the fishery statistical surveys, agents are dispatched to the districts to be surveyed as early in the calendar year as they can be spared from the tabulation and preparation for publication of their previous season's work. They collect statistics of fishery operations for the year preceding that in which they are working; and, since their field work occupies the greater part of the year, it is usually at least a year from the end of the calendar year for which they are collecting data until the figures are published. Most of the figures are collected for the calendar year. Where there are variations from this general practice, explanatory notes appear in the tables. Prior to 1930, statistics on the catch of oysters in the Atlantic and Gulf States were collected for the oyster season; that is, from September to

April, inclusive. Beginning with 1930 and down to the present, they have been collected on the basis of the calendar year.

Scope.—The scope of the coastal statistical surveys includes canvasses of the commercial fisheries of the oceans and bays and of the coastal rivers as far inland as commercial fishing is important. This usually coincides with the range of commercial fishing for anadromous species. Statistics of the fisheries of the Mississippi River cover canvasses of the fisheries of the Mississippi River proper as well as all of its tributaries wherein commercial fishing for either fish, crustaceans, or mollusks is prosecuted. Statistics of the fisheries of the Great Lakes cover canvasses of the fisheries prosecuted in the Lakes proper, adjacent bays, and the international lakes of northern Minnesota, as well as rivers which sustain a commercial fishery having outlets into these waters. Surveys for statistics of the wholesale and manufacturing fishery industries cover such plants located in the coastal, river, and lake areas adjacent to the waters mentioned above.

Methods of collection.—Several methods for the collection of fishery statistics are employed, each of which has been carefully studied to obtain the best results with the available personnel and funds. In most instances the agents obtain lists of the names of fishing vessels, names or numbers of motor boats, and names of owners of these craft from local customs officials. Also it often is possible to obtain the names of licensed commercial fishermen and occasionally some statistics on the catch from several of the State fishery agencies, from other State, county, or city agencies, or from private organizations.

With such preliminary records as are available for their guidance the agents then visit each fishing community in their field unless their preliminary records are so complete that personal visits in some areas may be eliminated. While it is impossible for the few agents available for this work to interview each fisherman in a given locality, the more important ones are visited and a sufficient number of those of lesser importance are interviewed to obtain reliable information on their production. In practice virtually all wholesale firms are visited as well as captains of fishing vessels (those of 5 net tons or over) and also most of the more important inshore fishermen.

In the Great Lakes and Pacific Coast States such exceptional cooperation has been obtained in recent years from the State fishery agencies in the collection of statistics that only fragmentary surveys need be made by the Bureau's agents to obtain the necessary data. Also the State fishery agencies in Maryland and Virginia recently have developed very complete statistical systems which greatly facilitate the Bureau's canvasses in these States.

As regards the fisheries of the Great Lakes and international lakes of northern Minnesota the Bureau obtains most of the catch statistics and usually the value of the catch direct from the records of the State fishery agency. To obtain data on the number of fishermen, boats, vessels, and gear the Bureau conducts such personal surveys among the fishermen as may be necessary to supplement the State records.

Bureau agents are stationed at Seattle, Wash., and Terminal Island, Calif., who survey the fisheries of the Pacific Coast States. As a rule they obtain figures on the volume of the catch from the records of the several State fishery agencies. In most cases the value of the catch is derived from dealers' records and sometimes from estimates

of prices. In Washington and Oregon the offshore fisheries are surveyed separately by the Bureau's agent to obtain the number of operating units, catch, and value of the catch. Statistics of the wholesale fishery industry for this section are obtained largely by personal interviews of the agents.

In the administration of the Alaska fisheries the Bureau obtains sworn statements concerning their activities from those prosecuting the fisheries in this area. These statements are compiled by the Alaska Division of this Bureau.

Statistics of the volume of the catch of fish of the Pacific Coast States are usually shown in weights as landed which may be in the round or dressed condition. Statistics on the volume of the catch of fish taken in the remainder of the United States are shown in round weight.

The figures in the tables for shellfish represent the weight of the meats in the case of univalve and bivalve mollusks and gastropods, and the round weight of crustaceans and such mollusks as squid and octupus.

Shore and vessel fisheries.—In general statistics of the shore fisheries as collected by the agents include data on the number of casual and regular fishermen; number and tonnage of motor and other fishing boats and accessory boats; kind and quantity of gear used, and the volume, value, and method of capture of each species caught by boats (for our purpose craft of less than 5 net tons capacity are called "boats") for each locality or group of localities. This method is not followed in some sections where the availability of data collected by the State fishery agencies obviates the necessity of detailed locality surveys.

Statistics of the vessel fisheries include data on the number of the crew, rig of vessel, net tonnage, kind and quantity of gear used, accessory boats carried and volume, value, and method of capture of each species caught by each vessel (for our purpose craft of 5 net tons capacity or more are called "vessels"). As in the shore fisheries the availability of figures collected by State fishery agencies may eliminate the necessity of our agents collecting these data for each vessel.

All persons engaged in commercial fishing operations are included as fishermen. For our purpose these have been divided into "regular" and "casual" fishermen. Regular fishermen are those who receive more than one-half of their annual income from fishing; and casual fishermen are those whose principal business is something other than fishing, and who receive less than one-half of their annual compensation from fishing.

The catch of fish is credited to the principal port of arrival and departure of the craft rather than its point of ownership, registration, documentation, or its port of landing. This accounts for catches of fish being shown in areas where they are not common since fishing vessels frequently fish in areas far from their principal fishing port.

Wholesale and manufacturing trade.—All persons or firms engaged in the wholesale buying and selling of fishery products or who produce manufactured fishery products are surveyed under this title. Where the business of fishing and wholesaling or manufacturing is combined, that part of the business devoted to either of the latter two phases is included in the wholesale and manufacturing survey and the part

devoted to fishing is included in the shore or vessel fisheries. If a wholesale business is conducted with no manufacturing and the business is so small that the full time of one man over the whole year or season is not required, it is then disregarded as a wholesale business. If commodities other than fishery products are handled the persons engaged, and salaries and wages paid, are prorated; and only that part concerned with fishery products is included. If such a firm requires less than the full time of one man over the whole year or season and if it does not manufacture, it is not included in the canvass. Retail firms that manufacture or whose wholesale business exceeds the retail part are included. Persons or firms engaged in the motor trucking of fishery products are included as wholesalers if they are engaged in wholesale buying and selling.

Buyers for a central firm are not canvassed as wholesale dealers unless they ship direct to the firms' customers from the buying point.

Fishermen or fishing concerns, except manufacturers, who do not buy fishery products are not included under this heading except that oyster-shucking firms are included provided shuckers are employed and irrespective of whether all or part of the oysters used are taken from the firms' privately owned beds.

Manufacturing concerns include those which prepare packaged fishery products; salted, spiced, smoked, dried, or otherwise cured fishery products; canned fishery products; or fishery byproducts.

Fishermen who manufacture are surveyed to obtain the number of persons so employed and the volume and value of the products prepared.

In collecting statistics of manufacturing firms the agents obtain data on the production for each plant in producing areas of products as marketed by the plant. Such products are usually "final" and in form for consumption; however, the products may be "intermediate" and require further processing before reaching the consumer markets. An outstanding example of an intermediate product is green-salted ground fish which almost invariably is further processed before final marketing. In reviewing the statistics of manufactured products it should be observed that intermediate products are not shown where they are prepared to the final stage in the original plant. An exception to this rule, however, is in the case of the production of mild-cured salmon which on account of its importance is shown in its entirety whether further processed in the producing plant or not. In this connection it should also be stated that several of the byproducts for which statistics are shown may be intermediate and the plants producing the final product are not surveyed by this Bureau. Outstanding among such products are marine-animal oils and fish scrap and meal.

Statistics of persons engaged in wholesale and manufacturing establishments are reported in three groups: Proprietors, salaried employees, and wage earners.

Proprietors represent those persons who devote their time to the conduct of the enterprise and receive their compensation in the form of profits. Managers of branch houses are not classified as proprietors.

Salaried employees usually include those persons paid by the week or month while wage earners usually consist of those paid on a per diem or piece-work basis. This, however, is not true in all cases,

since the distinction between these two classes depends primarily on the character of the work done rather than the unit of time employed for calculating rates of pay. In general, office employees are classified as salaried employees. Other employees, including plant workmen, are classed as wage earners. Plant foremen or superintendents are classified as salaried employees unless they are principally engaged in manual labor, in which case they are classified as wage earners. Active officers of corporations are classified as salaried employees. Statistics of wage earners are shown in two forms: The average number employed during the operating season; and the average number employed during the year (the monthly average for the year).

Transporting trade.—Statistics are obtained on the number of the crew and number of boats and vessels engaged in transporting fishery products from the fishing grounds to port or from port to port. However, if a craft is engaged in catching fish at any time of the year it is included as a fishing craft rather than as a transporter.

Publication of data.—Statistics of employment in the fisheries, craft and gear engaged, catch and value of catch, and certain data on industries related to the fisheries are summarized and published in bulletin form as soon as possible after completion of each survey. Later the figures in more detail are included in the annual reports of the Division.

LOCAL AND SPECIAL SURVEYS

Landings at certain important United States ports.—Statistics of the landings of aquatic products at the principal New England ports (Boston and Gloucester, Mass., and Portland, Maine) are obtained in a similar manner. An agent is permanently stationed at each of these ports. His duties include the obtaining of figures daily on the quantity of fish landed by each fishing vessel, the value of such fish landed, information concerning the date of departure and arrival of the vessel, and he also indicates the grounds from which the fish were taken and gear used in their capture. These data are forwarded the Bureau, where compilations are made. Products of American fisheries received duty free at Boston and Gloucester, Mass., and Portland, Maine, from the treaty coasts of Newfoundland, Magdalen Islands, and Labrador are included in the landings at these ports; however, they are not included in the catch in sectional fishery surveys of the New England States unless they represent a catch by United States vessels. Statistics of these landings are released monthly and annually in bulletin form and detailed data are published in the annual reports of this Division. Data on the landings at Boston and Gloucester, Mass., have been collected annually since 1893, and those for Portland, Maine, since June 1915. Some data are available for Boston and Gloucester prior to 1893.

Statistics of the landings of fish at Seattle, Wash., are collected by the Bureau's agent in that city. Landings are classified as those made by American fishing vessels and those received by Seattle wholesale dealers. The landings credited to United States fishing vessels are made by vessels operating distinctly as primary fishing units, usually in the offshore fisheries, while those credited as received by wholesale dealers are usually products of the shore fisheries collected mainly from points in Puget Sound and do not include fish received

from Alaska or Canada, or landings made by the halibut fleet. Statistics of these landings at Seattle are released monthly and annually in bulletin form and detailed data are published in the annual reports of this Division. Statistics of the landings by fishing vessels at Seattle have been collected since June 1915 and certain data on products received by Seattle wholesale dealers since December 1915.

Statistics on the landings of fish at New York City are obtained from J. H. Matthews, executive secretary of the Middle Atlantic Fisheries Association, New York, N. Y. During the years when one of the large trawling companies operated from Groton, Conn., the landings at that port were collected by the Bureau's agents and included with the landings at New York City in published data. Monthly bulletins including these landings are not issued. However, a summary of the year's activities is published in the annual reports of the Division. Statistics of the landings at either one or both of the above ports are available since 1922.

Statistics of the fishery products handled at the municipal wharf, Washington, D. C., are reported to the Bureau by agents of the Health Department in Washington. They are not published in bulletin form, but a summary of the year's activities is published in the annual reports of the Division. Data on products handled at the municipal wharf are available since 1921.

Atlantic mackerel fishery.—Statistics on the catch by the Atlantic mackerel fleet are obtained by combining the figures of mackerel landed at Boston and Gloucester, Mass., and Portland, Maine, with those obtained by Bureau agents, who in recent years have been stationed at other Atlantic ports where mackerel are landed. These agents obtain data on the volume of mackerel landed in a manner similar to that used to obtain figures on the landings by fishing vessels at the three New England ports. The figures include only the catches made by purse seine and drift gill net craft and are not complete for craft of under 5 net tons capacity using this type of gear. Statistics of this fishery appear only in the annual reports of this Division, although the landings at the principal New England ports appear in the monthly and annual bulletins published for those ports. Statistics of this fishery are available from 1905 to 1933, inclusive.

Shad and alewife fisheries.—Owing to the importance of the Hudson and Potomac Rivers in the production of shad, surveys for statistics of the catch, value of the catch, and operating units are made annually. On the Potomac River similar statistics also are obtained for the alewife fishery.

The survey in the Potomac River is conducted entirely by Bureau agents in a manner similar to that employed in the collection of the usual fishery statistics. The survey of the Hudson River shad fishery also is conducted by Bureau agents although considerable data is obtained from the New York State fishery agency for the catch in waters of this State.

Statistics of the shad and alewife fisheries are not published separately in bulletin form, but a summary of the year's activities is published in the annual reports of the division.

Statistics of the shad fishery of the Hudson River are available for 1896, 1897, 1898, 1901, 1904, 1910, and from 1915 to 1933, inclusive, while data for the shad fishery of the Potomac River are available

for 1896, 1901, 1904, 1909, 1915, and from 1919 to 1933, inclusive. Statistics of the alewife fishery of the Potomac River are available for 1896, 1909, 1915, and from 1919 to 1933, inclusive.

Pacific halibut fishery.—Statistics of the Pacific halibut fishery are obtained by the Bureau's agent in Seattle, aided by Bureau representatives in Alaska and the International Fisheries Commission. The fleet classification has been arbitrarily applied by including in the "Washington fleet" all United States and Alaska vessels that land more than half of their catch in that State. All other United States and Alaska vessels of the halibut fleet are included in the "Alaska fleet." Monthly and annual statistical bulletins are available on this fishery, being published along with the statistics of the landings of fishery products at Seattle, Wash., and detailed statistics are published in the annual reports of the Division. Statistics of the landings of halibut at Pacific coast ports have been collected since 1925.

Canned fishery products and byproducts.—Beginning in 1921, the Bureau has made annual surveys for statistics of the canned fishery products and byproducts industries of every section. These are begun the first week in January of each year for statistics of the production in the preceding year. The surveys usually occupy 6 to 9 week's time. During this period the Bureau obtains by mail, so far as possible, the production of canned fishery products or byproducts from each plant in the United States engaged in this business. Where it is impossible to obtain reports by mail the report is obtained by personal visit by the Bureau's agents. They obtain statistics of the production and value of the production for each commodity. Statistics of the canned fishery products and byproducts produced in Alaska are received on the same statements obtained by the Bureau that include statistics of their general fishery operations.

An annual statistical bulletin is issued on this trade, and detailed statistics of the output are published in the annual reports of the Division. In addition to the data obtained on the output of these products annually since 1921, data also usually were obtained prior to 1921 for the years the various sections were surveyed.

The value shown for canned products constitutes the gross amount received by the packer at the production point, no deductions being made for commission or expenses.

Packaged-fish trade.—Complete statistics of the annual production and value of fish packaged in the United States are obtained as a part of the survey for the statistics of the canned fishery products and byproducts industries. These statistics are released in bulletin form annually and detailed statistics are published in the annual reports of the Division. Statistics of the production of packaged fish are available for 1926 and the years from 1928 to 1933, inclusive.

Cold-storage holdings of fish.—An arrangement has been made with the Bureau of Agricultural Economics, Department of Agriculture, whereby statistics of the cold-storage holdings of the various species of fish, by sections of the United States, are furnished to this Bureau monthly. Included with statistics of the holdings are statements of the quantity of the various species of fish frozen and also the holdings of certain cured fish. Bulletins showing these statistics are issued monthly as well as annually, and detailed statistics are published in the annual reports of this Division. Statistics of cold-storage holdings of fishery products have been published since 1917 and data on quan-

tities of fish frozen, for the years from 1920 to 1925, inclusive, and from 1928 to 1933, inclusive.

Sponge market, Tarpon Springs.—A large proportion of the total output of sponges in Florida is handled through the sponge exchange at Tarpon Springs. In view of this, the Bureau has obtained from a representative of the exchange annual statistics of the quantity and value of the sponges, by variety classification, handled through it annually. Statistics of the quantity of sponges handled through the exchange are not published in bulletin form, but a summary of the year's activities is published in the annual reports of this Division. Statistics of the transactions on the sponge exchange are available for 1913, 1914, and for the years from 1917 to 1933, inclusive.

Foreign fishery trade.—Statistics of the foreign fishery trade are obtained from compilations made by the Bureau of Foreign and Domestic Commerce, Department of Commerce. Statistics of all known fishery products imported or exported have been assembled in one table and published annually in the reports of the Division in recent years. For earlier years they are available in the reports of the Bureau of Foreign and Domestic Commerce, the Bureau of Statistics, the Department of Commerce and Labor, and the Treasury Department.

PRACTICES AND TERMS

Certain practices and terms of importance used in the compilation of fishery statistics are explained below.

Days absent.—In computing "days absent" for vessels landing fares at the various ports, the day of departure and the day of arrival are included; thus, a vessel leaving port on the 8th of the month and returning on the 15th of the month will be shown as being absent 8 days.

Operating units.—Operating units as referred to in this document include persons engaged in the fisheries and fishing craft and gear employed.

Vessel.—The term "vessel" refers to a craft having a capacity of 5 net tons or more.

Boat.—The term "boat" refers to a craft having a capacity of less than 5 net tons.

Incidental catch.—The term "incidental catch" refers to the catch of certain species by a type of gear which ordinarily does not capture such species.

Percentages.—Percentages are usually shown as whole numbers. Fractions of percents are dropped if less than five-tenths, and the percentage is raised to the next higher integer if the fraction is greater than five-tenths. If the fraction is exactly five-tenths, the integer is raised or lowered to make it an even number.

Converting.—Many of the figures shown in the statistical tables published herewith have been reduced to thousands of pounds or dollars. In making these conversions the largest number from which a group of items is computed is raised or lowered to the nearest thousands place. If the number ends in an even 500, the thousands integer is raised or lowered to make it an even number. The individual items are changed to conform to the total thus obtained.

Confidential data.—The statistical data collected by the Division are confidential and are not released except by approval of the Washington

office. Statistics of production of wholesale and manufacturing firms are published only for commodities or geographical areas where the production of three or more concerns may be grouped. Every effort is made to publish only those figures which will not reveal individual enterprise.

CONVERSION FACTORS

It is the policy of the Bureau to show the detailed catch figures of all products in pounds for the sake of uniformity and for purposes of comparison. Following such a policy presents certain problems. In the case of fish there is little difficulty since in very rare instances are such products reported in units of measure other than pounds. For shellfish, however, the units of measure may be bushels, sacks, barrels, or thousands of shellfish, gallons of meats, etc. These many units make standardization difficult, but when coupled with the wide variation in the requirements or definition of some of these units in the various States the problem becomes even more complex.

All bivalve mollusks are reported in pounds of meats in the detailed catch tables presented in this report. In addition, there are included supplementary tables for most of the sections, which give data on the production in bushels. These supplementary tables also give the production of certain other shellfish, such as crabs, in number.

Oysters.—Probably the greatest problem in presentation of fishery statistics in uniform units of measure is in the case of oysters. Usually the production of oysters on the Atlantic and Gulf coasts is reported to Bureau agents in bushels; and prior to the data obtained for the year 1930 conversion from bushels to pounds of meats was effected on the basis of a uniform yield of 7 pounds of meats to the bushel. However, recent investigations have shown considerable variation from this figure. There follows a table which gives the results of these studies of the measures used for oysters in the various States and of the average yields per bushel. This table presents the factors that have been used in the oyster statistics given in this report.

Measures and yields of oysters [1]

State	Capacity of State bushel	Variation from United States standard bushel		Market oysters	
				Yield per State bushel	Yield per standard bushel
	Cubic inches	*Cubic inches*	*Percent*	*Pounds of meats*	*Pounds of meats*
Massachusetts	2,150.4	----------	----------	6.57	6.57
Rhode Island	2,150.4	----------	----------	6.96	6.96
Connecticut	2,150.4	----------	----------	6.81	6.81
New York	2,150.4	----------	----------	7.00	7.00
New Jersey	2,257.3	+106.9	+5.0	8.70	8.29
Delaware	2,257.3	+106.9	+5.0	7.88	7.50
Maryland	2,801.5	+650.1	+30.2	6.57	5.05
Virginia	3,003.4	+853.0	+39.7	6.60	4.72
North Carolina	2,801.9	+651.5	+30.3	5.71	4.38
South Carolina	4,071.5	+1,921.1	+89.3	4.76	2.51
Georgia	2,753.4	+603.0	+28.0	5.69	4.45
Florida	3,214.1	+1,063.7	+49.4	3.29	2.20
Alabama	2,826.2	+675.8	+31.4	2.40	1.83
Mississippi	2,826.2	+675.8	+31.4	2.19	1.67
Louisiana	2,148.4	−2.0	−.1	4.14	4.14
Texas	2,700.0	+549.6	+25.6	5.05	4.02

[1] Data for the New England, Middle Atlantic, and Chesapeake States are for 1933. Other data are for 1932.

Other mollusks.—The following table shows the conversion factors for various mollusks, other than oysters, used in this report.

Average yields of certain mollusks in pounds of meats per bushel [1]

State	Clams, hard		Clams, soft		Clams, surf	Clams, razor	Mussels, sea	Periwinkles and cockles	Scallops, bay	Scallops, sea	Conchs
	Public	Private	Public	Private							
Maine	11	------	15	------	------	------	12	18	------	6	------
Massachusetts	11	11	15	------	17	32	10	18	6	6	------
Rhode Island	11	11	16	------	------	------	13	18	6	------	------
Connecticut	10	------	14	------	------	------	------	------	5.75	6	------
New York	8	8	16	------	12	------	10	------	5	6	18
New Jersey	8.96	8.96	20	------	12.5	------	13	11.85	6	6	18
Delaware	10	10	------	------	------	------	------	------	------	------	------
Maryland	8	------	------	------	------	------	------	------	------	------	------
Virginia	8	------	------	------	------	------	------	------	5.5	------	------
North Carolina	8	------	------	------	------	------	------	------	------	------	------
South Carolina	8	------	------	------	------	------	------	------	------	6	------
Georgia	8	------	------	------	------	------	------	------	------	------	------
Florida	8	------	------	------	------	------	------	------	5.3	------	------

[1] Data for the New England, Middle Atlantic, and Chesapeake States are for 1933. Other data are for 1932.

Other conversion factors.—The principal other conversion factors that have been used in this report are as follows:

Alewives—To convert number of fish to weight in pounds, multiply by 0.4.

Cod, large, salted—To convert to fresh-gutted weight, multiply by 1.90.

Cod, market, salted—To convert to fresh-gutted weight, multiply by 1.94.

Cod, scrod, salted—To convert to fresh-gutted weight, multiply by 1.98.

Crustaceans:

- Crabs, soft (New York, Maryland, and Virginia)—To convert number of crabs to weight in pounds, divide by 4.
- Crabs, soft (North Carolina)—To convert number of crabs to weight in pounds, divide by 3.63.
- Crabs, soft (other States)—To convert number of crabs to weight in pounds, divide by 3.
- Crabs, hard (North Carolina)—To convert number of crabs to weight in pounds, divide by 4.
- Crabs, hard (South Carolina and Georgia)—To convert number of crabs to weight in pounds, divide by 2.
- Crabs, hard (Florida)—To convert number of crabs to weight in pounds, divide by 1.64.
- Crabs, hard (Alabama and Texas)—To convert number of crabs to weight in pounds, divide by 1.72.
- Crabs, hard (Mississippi)—To convert number of crabs to weight in pounds, divide by 1.92.
- Crabs, hard (Louisiana)—To convert number of crabs to weight in pounds, divide by 1.86.
- Crabs, hard (other States)—To convert number of crabs to weight in pounds, divide by 3.
- Crabs, king—To convert number of crabs to weight in pounds, multiply by 4.
- Crabs, rock—To convert number of crabs to weight in pounds, divide by 3.
- Crabs, stone—To convert number of crabs to weight in pounds, multiply by 1.33.

Cusk, salted—To convert to fresh-gutted weight, multiply by 1.90.

Haddock, large, salted—To convert to fresh-gutted weight, multiply by 2.06.

Haddock, scrod, salted	To convert to fresh-gutted weight, multiply by 2.10.
Hake, large, salted	To convert to fresh-gutted weight, multiply by 1.90.
Hake, small, salted	To convert to fresh-gutted weight, multiply by 1.98.
Halibut, salted	To convert to fresh-gutted weight, multiply by 2.
Herring, salted	To convert to round weight, multiply by 1.50.
Mackerel, salted	To convert to round weight, multiply by 1.35.
Menhaden	To convert number of fish to weight in pounds, multiply by 0.6.
Oil (east coast)	To convert gallons to pounds, multiply by 7.74.
Oil (west coast)	To convert gallons to pounds, multiply by 7.5.
Pollock, salted	To convert to fresh-gutted weight, multiply by 1.90.
Sponges, dried (Florida):	
Large wool	To convert number of bunches to weight in pounds, multiply by 3.5.
Medium wool	To convert number of bunches to weight in pounds, multiply by 1.75.
Small wool	To convert number of bunches to weight in pounds, multiply by 1.
Wool rags	To convert number of bunches to weight in pounds, multiply by 2.25.
Grass	To convert number of bunches to weight in pounds, multiply by 1.
Wire	To convert number of bunches to weight in pounds, multiply by 1.5.
Yellow	To convert number of bunches to weight in pounds, multiply by 1.25.

COMMON AND SCIENTIFIC NAMES OF FISHERY PRODUCTS

In order to prevent misunderstanding in the use of common names employed in the tables and discussions, the following list of common and scientific names is given:

Common and scientific names of the commercial fishery products caught in the United States and Alaska

Common name as shown in Bureau reports	Other common names	Scientific names
Albacore	Longfin tuna	*Germo alalunga* (Pacific coast).
Alewives	Branch herring, wall-eyed or big-eyed herring.	*Pomolobus pseudoharengus.*
	Blueback, glut herring	*Pomolobus aestivalis.*
Amberjack		Seriola species.
Anchovies		*Engraulis mordax.*
		Anchoviella delicatissima.
		Anchoviella compressa.
Angelfish		*Pomacanthus arcuatus.*
		Angelichtys isabelita.
Barracuda		*Sphyraena argentea* (Pacific coast).
		Sphyraena barracuda (Atlantic coast).

Common and scientific names of the commercial fishery products caught in the United States and Alaska—Continued

Common name as shown in Bureau reports	Other common names	Scientific names
Black bass	Smallmouth bass	*Micropterus dolomieu.*
	Largemouth bass	*Micropterus salmoides.*
Bluefish	Tailor	*Pomatomus saltatrix.*
Blue pike	Pike perch, blue pickerel (Canada).	*Stizostedion glaucum.*
Blue runner or hardtail.	Runner	*Caranx crysos.*
Bonito		*Sarda sarda.*
		Sarda chiliensis.
Bowfin		*Amia calva.*
Buffalofish		Ictiobus species.
Bullhead		Ameiurus species.
Butterfish	Dollarfish	*Poronotus triacanthus.*
Burbot	Lawyer, ling	*Lota maculosa.*
Cabio	Coalfish, crab eater, cobia.	*Rachycentron canadus.*
Cabrilla	Rock bass	*Epinephelus analogus* (Pacific coast).
Carp	German carp	*Cyprinus carpio.*
Catfish		Siluridae species.
Cero		*Scomberomorus regalis.*
Chubs	Tullibee in Canada; longjaw, bluefin, blackfin in United States.	All Leucichthys except *artedi* (in Great Lakes).
Cigarfish	Scad	Decapterus species.
Cisco	Herring in Canada	*Leucichthys artedi* (Lake Erie only).
Cod	Codfish	*Gadus macrocephalus* (Pacific coast).
		Gadus callarias (Atlantic coast).
Corbina	Orange mouth corbina	*Cynoscion xanthulum.*
Crappie	White crappie	*Pomoxis annularis.*
	Black crappie, strawberry bass, calico bass.	*Pomoxis sparoides.*
Crevalle		*Caranx hippos.*
Croaker	Crocus, hardhead	*Micropogon undulatus.*
Cunner	Chogset, blue perch, bergall.	*Tautogolabrus adspersus.*
Cusk		*Brosmius brosme.*
Dolly Varden trout	Salmon trout, bull trout	*Salvelinus parkei.*
Dolphin		*Coryphaena hippurus.*
Drum:		
Black		*Pogonias cromis.*
Red	Channel bass, redfish, spotted bass.	*Sciaenops ocellatus.*
Eels:		
Common		*Anguilla rostrata.*
Conger		*Leptocephalus conger.*
		Gymnothorax species.
Flounders	Dabs, blackbacks, lemon sole, winter flounder, summer flounder.	Pleuronectidae species.
	Halibut, "California"	*Paralichthys californicus.*
	Sole	*Psettichthys melanostictus* (Pacific coast).
Flyingfish		*Cysilurus californicus.*
Frigate mackerel	"Boo Hoo."	*Auxis thazard.*
Garfish		(See sea gar.)
Gizzard shad	Nanny shad, mud shad	*Dorosoma cepedianum.*

Common and scientific names of the commercial fishery products caught in the United States and Alaska—Continued

Common name as shown in Bureau reports	Other common names	Scientific names
Goldeye		Hiodon species.
Goldfish	Sand perch	*Carassius auratus.*
Goosefish		*Lophius piscatorius.*
Grayfish	Dogfish	*Squalus sucklii* (Pacific coast.)
	Spiny dog	*Squalus acanthias.*
	Smooth dog	*Mustelus mustelus.*
Groupers	"Sea bass"	Epinephelus species.
Grunts	Margatefish, sailors choice (Key West).	Mycteroperca species. Haemulon species.
Haddock		*Melanogrammus aeglefinus.*
Hagfish	Slimefish	*Myxine glutinosa.*
Hake	Squirrel hake, Boston hake, ling, black hake, mud hake.	Urophycis species (Atlantic coast).
	Merluccio	*Merluccius productus* (Pacific coast).
Halibut		*Hippoglossus hippoglossus.*
Hardhead		*Orthodon microlepidotus* (Pacific coast).
Harvestfish	Starfish, pappyfish; butterfish (N. C.).	*Peprilus alepidotus.*
Herring:		
Lake	Herring	*Leucichthys artedi* (Great Lakes, except Erie).
Sea		*Clupea harengus* (Atlantic coast).
		Clupea pallasii (Pacific coast).
Herring smelt	Sea smelt	*Argentina silus.*
Hickory shad	Tailor shad	*Pomolobus mediocris.*
Hogfish	Capitaine, perro perro	*Lachnolaimus maximus* (Florida).
Horse mackerel		*Trachurus symmetricus* (Pacific coast).
Jewfish		*Promicrops itaiara.*
Kingfish		*Scomberomorus cavalla* (Atlantic coast).
	Little roncador, croaker	*Genyonemus lineatus* (California).
King whiting	Northern whiting, kingfish, seaming.	Menticirrhus species.
Ladyfish	Bonefish	*Albula vulpes.*
Lake trout		*Cristivomer namaycush.*
Launce	Sand eel, lant, sand launce.	*Ammodytes americanus.*
"Lingcod"	Cultus cod, blue cod, buffalo cod, ling.	*Ophiodon elongatus.*
Mackerel		*Scomber scombrus* (Atlantic coast).
		Scomber diego (Pacific coast).
Marlin	Spearfish	*Tetrapturus mitsukurii* (Pacific coast).
Menhaden	Mossbunker, pogy	*Brevoortia tyrannus.*
Minnows		Cyprinidae species.
Mojarro		Eucinostomus species.
Mooneye	Toothed herring	Hiodon species.
Moonfish		*Vomer setipinnis.*
		Selene vomer.

Common and scientific names of the commercial fishery products caught in the United States and Alaska—Continued

Common name as shown in Bureau reports	Other common names	Scientific names
Mullet	Jumping mullet	Mugil species.
Mummichog	Mayfish, killifish	Fundulus species.
Muttonfish		*Lutianus analis.*
Paddlefish	Spoonbill cat	*Polyodon spathula.*
Parrotfish		Scaridae species.
Perch (California)		(See surf fishes)
Permit	Great pompano	*Trachinotus goodei.*
Pigfish	Hogfish (N. C.)	*Orthopristis chrysopterus.*
Pike or pickerel	Great Lakes pike	*Esox reticulatus.* *Esox lucius.*
Pilchard	Sardine	*Sardinia caerulea.*
Pilotfish		*Naucrates ductor.* *Seriole zonata.*
Pinfish	Bream, salt-water bream	*Lagodon rhomboides.*
Pollock		*Pollachius virens.*
Pompano		Trachinotus species (Atlantic coast). *Palometa simillima* (Pacific coast).
Porgies	Porgee	Calamus species.
Porkfish	Sisi	*Anisotremus virginicus*
Quillback	Spearfish or skimfish	Carpiodes species.
Roach	Shiner	*Notemigonus crysoleucas.*
Rock bass	Redeye, goggle-eye	*Ambloplites rupestris* (Mississippi River to Atlantic seaboard).
	Groupers	*Paralabrax nebulifer* (Pacific coast).
Rockfishes	Rock cod	Sebestodes species (Pacific coast).
Rosefish		*Sebastes marinus.*
Rudderfish	Blue bass, greenfish	*Girella nigricans* (Pacific coast).
	Halfmoon	*Medialuna californiensis* (Pacific coast).
Sablefish	Black cod	*Anaplopoma fimbria*
Salmon:		
Atlantic		*Salmo salar* (Atlantic coast).
Pacific:		
Blueback, red or sockeye.		*Oncorhynchus nerka.*
Chinook or king.	Tyee, Columbia, Sacramento, spring.	*Oncorhynchus tschawytscha.*
Chum or keta.	Dog salmon	*Oncorhynchus keta.*
Humpback or pink.		*Oncorhynchus gorbuscha.*
Silver or coho		*Oncorhynchus kisutch.*
Steelhead	See steelhead trout.	
Sauger	Sand pike	*Stizostedion canadense.*
Sawfish		*Pristis pectinatus.*
Sculpin		Cottidae species.
Scup	Paugy or porgy, fair maid.	Stenotomus species.
Sea bass	Black jewfish or black sea bass.	*Stereolepis gigas* (Pacific coast).
	Black sea bass	*Centropristes striatus* (Atlantic coast).
	White sea bass	*Cynoscion nobilis* (Pacific coast).

Common and scientific names of the commercial fishery products caught in the United States and Alaska—Continued

Common name as shown in Bureau reports	Other common names	Scientific names
Sea gar	Needlefish, billfish, houndfish.	Tylosurus species.
Sea robin		Prionotus species.
Shad	American shad	*Alosa sapidissima.*
Sharks		Carcharodon species: Mustelus species; Carcharhinus species; Sphyrna species.
Sheepshead		*Archosargus probatocephalus* (Atlantic coast).
	Drum, fresh-water	*Aplodinotus grunniens* (Freshwater).
	Redfish, flat head	*Pimelometopon pulcher* (Pacific coast).
Silver perch	Sand perch	*Bairdiella chrysura.*
Silversides	Spearing	Menidia species.
Skates		Raja species.
Skipper	Billfish	*Scomberesox saurus.*
Smelts		*Osmerus mordax* (Atlantic coast).
		Argentinidae species (Pacific coast).
	Eulachon	*Thaleichthys pacificus.*
Snapper:		
Mangrove	Gray snapper	*Lutianus griseus.*
Red		*Lutianus blackfordii.*
Snook	Robalo, sergeantfish	*Centropomus undecimalis.*
Spadefish	Porgy (N. C.)	*Chætodipterus faber.*
Spanish mackerel		*Scomberomorus maculatus.*
Splittail		*Pogonichthys macrolepidotus.*
Spot	Lafayette, goody	*Leiostomus xanthurus.*
Squawfish	Sacramento pike	*Ptychocheilus grandis.*
Squeteague:		
Gray	Gray trout, weakfish, trout.	*Cynoscion regalis.*
Spotted	Spotted weakfish, spotted trout.	*Cynoscion nebulosus.*
Squirrelfish		*Diplectrum formosum.*
Steelhead trout	Salmon trout	*Salmo gairdneri.*
Striped bass	Rockfish, rock	*Roccus lineatus.*
Sturgeon		Acipenser species.
Sturgeon, shovelnose		*Scaphirhynchus platorynchus.*
Sucker	Fresh-water mullet	Catostomidae species.
Sunfish		Lepomis species. Centrarchidae species.
Surf fishes		Embiotocidae species.
Swellfish	Puffer, swell toad, balloonfish, globefish.	*Spheroides maculatus.*
Swordfish		*Xiphias gladius.*
Tai		*Calumus brachysomus.*
Tautog	Blackfish, oysterfish	*Tautoga onitis.*
Tenpounder	Elops	*Elops saurus.*
Thimble-eyed mackerel	Bullseye	*Scomber colias.*
Tilefish		*Lopholatilus chamæleonticeps.*
Tomcod		*Microgadus tomcod* (Atlantic coast). *Microgadus proximus* (Pacific coast).
Tripletail		*Lobotes surinamensis.*

Common and scientific names of the commercial fishery products caught in the United States and Alaska—Continued

Common name as shown in Bureau reports	Other common names	Scientific names
Tullibee		(See chubs.)
Tuna and tunalike fishes:		
Albacore	Longfin tuna	*Germo alalunga.*
Bluefin	Tuna, leaping tuna (Pacific coast). "Horse mackerel" (Atlantic coast).	*Thunnus thynnus.*
Bonito		*Sarda sarda* (Atlantic coast). *Sarda chiliensis* (Pacific coast).
Skipjack	Striped tuna	*Euthynnus pelayms.*
Yellowfin		*Neothunnus macropterus.*
Turbot	Greenland halibut	*Reinhardtius hippoglossoides* (Off New England)
	American turbot	*Balistes carolinensis* (Off Florida)
White bass	White lake bass	*Roccus chrysops.*
Whitebait	Small fry of any fish.	
Whitefish:		
Common		*Coregonus clupeiformis* (Great Lakes). *Caulolatilus princeps* (Pacific coast).
Menominee		*Prosopium quadrilaterale*
White perch		*Morone americana* (Atlantic coast).
Whiting	Silver hake	*Merluccius bilinearis.*
Wolffish		*Anarhichas lupus.*
Yellow perch		*Perca flavescens.*
Yellow pike	Wall-eyed pike, pike perch, dore.	*Stizostedion vitreum.*
Yellowtail		*Ocyurus chrysurus* (Atlantic coast). *Seriola dorsalis* (Pacific coast).
Abalone		Halotis species.
Clams:		
Cockle		*Cardium corbis* (Pacific coast).
Hard	Butter	*Saxidomus nuttall.*
	Round clam, cherrystone, quahog, little neck	*Tivela stultorum* (Pacific coast). *Venus mercenaria* (Atlantic coast). *Venus mortoni* (Florida coast).
Pismo		*Tivela stultorum* (Pacific coast).
Razor		Enis species (Atlantic coast). *Siliqua patula* (Pacific coast).
Surf	Skimmer	*Mactra solidissimo.*
Cockles	Moonshell	*Natica heros* (Atlantic coast).
Conchs		Strombus species. Busycon species.
Coquina	Pompano shells	*Donax variabilis.*

Common and scientific names of the commercial fishery products caught in the United States and Alaska—Continued

Common name as shown in Bureau reports	Other common names	Scientific names
Crabs:		
Hard	Hard-shell crab, blue crab	*Callinectes sapidus.*
	Dungeness crab	*Cancer magister* (Pacific coast).
	Rock crab, hard crab	*Cancer irroratus* (Atlantic coast).
Soft	Soft-shelled crab, blue crab.	*Callinectes sapidus.*
King	Horseshoe crab	*Limulus* (Atlantic coast).
Stone		*Menippi mercenaria.*
Crawfish:		
Fresh-water	Crayfish	Cambarus species (Atlantic coast).
		Astacus species (Pacific coast).
Sea	Rock lobster, crayfish	*Panulirus argus* (Atlantic coast).
		Panulirus interruptus (Pacific coast).
Lobsters:		
Common		*Homarus americanus* (Atlantic coast).
Spiny	(See sea crawfish.)	
Mussels:		
Sea		*Mytilus californianus* (Pacific coast).
		Mytilus edulis.
Fresh-water		Quadrula species.
		Lampsilis species.
		Unio species.
		Symphynota species.
Octopus		*Octopus punctatus* (Pacific coast).
Oysters:		
Eastern		*Ostrea elongata.*
Western	Olympia	*Ostrea lurida* (Pacific coast).
Japanese (introduced).	Pacific	*Ostrea gigas.*
Periwinkles		Littorina species.
Scallops:		
Bay		*Pecten irradians* (Atlantic coast).
		Pecten aequisulcatus (Pacific coast).
Sea		*Pecten magellanicus.*
Shrimp		*Peneus setiferus.*
		Peneus brasiliensis (Atlantic and Gulf coasts).
		Pandalus species (Pacific coast).
		Pandalopsis species (Pacific coast).
		Crangon species (Pacific coast).
Squid		*Loligo opalescens* (Pacific coast).
		Loligo pealei (Atlantic coast).
Terrapin	Diamond-back terrapin	Malaclemmys species.

Common and scientific names of the commercial fishery products caught in the United States and Alaska—Continued

Common name as shown in Bureau reports	Other common names	Scientific names
Turtles:		
Green		*Chelonia mydas.*
Loggerhead		*Thalassochelys caretta.*
Hawksbill		*Chelonia inbricata.*
Snapping	Hardshell, alligator turtle	*Chelydra serpentina.* / *Macrochalys lacertina.*
Soft-shell		Trionyx species.
Frogs		Rana species.
Irish moss		*Chondrus crispus.*
Kelp		Macrocystis species; Nereocystis species; Pelagophycus species; Alaria species.
Sponges:		
Glove		*Spongia graminea* (Hyatt) *Euspongia officianalis* (L.)
Grass		*Hippospongia equina cerebriformis.*
Sheepswool		*Hippospongia canaliculata gossypina.*
Yellow		*Hippospongia equina elastica.*
Trepang	Sea cucumber	*Cucumaris frondosa*; *Thyone briareus.*